NOVEMBER 2002

FINAL

ENVIRONMENTAL ASSESSMENT FOR THE INSTALLATION AND OPERATION OF A RELAY TOWER AT CRAWFORD HILL, UNITED STATES BORDER PATROL, NOGALES STATION SANTA CRUZ COUNTY, ARIZONA

IMMIGRATION AND NATURALIZATION SERVICE
WASHINGTON, D.C.

FINDING OF NO SIGNIFICANT IMPACT

FOR PROPOSED INSTALLATION OF A RELAY TOWER AT CRAWFORD HILL, U.S. BORDER PATROL, NOGALES STATION SANTA CRUZ COUNTY, ARIZONA

PROJECT HISTORY: In the early 1990s, the U.S. Border Patrol, Nogales Station installed 10 Remote Video Surveillance (RVS) systems in order to enhance their efforts in deterring undocumented aliens (UDA) and illegal drug smuggling within Santa Cruz County. These RVS systems have proven to be an effective solution to reducing UDA traffic and illegal drug smuggling. Currently, the existing relay tower does not provide adequate signal relay capabilities and signals are often interrupted due to local terrain. The proposed relay tower will serve as a relay hub for signals from existing RVS systems as well as future RVS systems. The RVS systems and improved communications will serve to provide a safe working environment for USBP agents, enhance detection capabilities, and facilitate apprehension of illegal entrants.

PURPOSE AND NEED: The purpose of the proposed relay tower is to provide enhanced signal transmission of current and future RVS systems and to aide the USBP in the detection of illegal activity along the U.S. borders by allowing current and future RVS systems to provide 24-hour surveillance capabilities. The proposed relay tower would serve as a communications hub by relaying information from existing and proposed RVS systems back to the Nogales Station. The existing RVS systems are monitored at the Nogales Station and transmissions are often interrupted due to the local terrain. The proposed Crawford Hill tower would provide a clear line of transmission between the existing RVS systems and the Nogales Station tower enhancing the monitoring/surveillance effectiveness of the current systems. Without this relay tower, the 10 existing and any future RVS systems within Nogales Station's Area of Operations (AO) would be rendered useless because of outdated equipment and lack of a relay tower to transmit signals back to the Nogales Station. The proposed relay tower would be equipped with RVS equipment in the event that future illegal traffic patterns warrant the need for video surveillance in the immediate vicinity of the relay tower.

PROPOSED ACTION: The Proposed Action is the installation, operation, and maintenance of one relay tower along the U.S.-Mexico border within Santa Cruz County, Arizona. The proposed relay tower would be equipped with RVS equipment in the event that future illegal traffic patterns warrant the need for additional surveillance in the area. Since the proposed relay tower would be equipped with RVS at a future date if necessary, the relay tower and future RVS equipment (e.g., cameras) will be collectively referred to as a relay tower. The proposed relay tower is located on Crawford Hill within the City of Nogales.

In addition to the relay tower being installed at the Crawford Hill site, the USBP also plans on updating their existing cameras sites within the Nogales Station AO by retrofitting 10 new modern cameras with infrared capabilities at the existing RVS locations. This action would

include the removal of non operational cameras and replacement with new infrared cameras and would not require any ground disturbing activities.

ALTERNATIVES: The No Action Alternative would preclude the installation and operation of the relay tower and upgrade of extant RVS systems. Under this alternative, illegal traffickers, UDAs and potential terrorists would be less likely to be immediately detected and, thus, apprehended. Additional agents would have to be deployed to provide equal level of surveillance capabilities afforded by the RVS system. In addition, the risk to USBP agents would be increased during night time operations by the lack or delayed detection of illegal entrants.

Other alternatives considered but eliminated from further consideration include an increased workforce alternative and an increased aerial reconnaissance/operations alternative.

ENVIRONMENTAL CONSEQUENCES: The proposed relay tower would be installed on Crawford Hill which has been previously disturbed and already contains other communications towers and water tanks. Therefore, no significant adverse effects to the natural or human environment are expected upon implementation of the proposed action.

ENVIRONMENTAL DESIGN MEASURES: Environmental design measures to be implemented for the proposed action include:

1. Using standard construction procedures to minimize the potential for erosion and sedimentation and control fugitive dust during construction.

2. Best Management Practices (BMPs) would also be used during construction to minimize or prevent erosion and soil loss.

3. All construction equipment would possess properly working mufflers and be kept in a proper state of tune to reduce backfires.

4. Palmer's agave, which is a potential food source for the lesser long-nosed bat, was observed adjacent to the proposed site of the relay tower. Any agave would be flagged prior to construction and avoided to the extent practicable.

5. All required Section 106 compliance procedures would be completed prior to initiating construction activities.

FINDING: Based upon the results of the EA and the environmental design measures to be incorporated as part of the Proposed Action, it has been concluded that the Proposed Action will not have a significant adverse effect on the environment. Therefore, no further environmental impact analysis is warranted.

Kenneth R. Ehinger, Director
Headquarters, Facilities and Engineering Division

11/8/02
Date

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NOVEMBER 2002

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EXECUTIVE SUMMARY

PROPOSED ACTION:	The U.S. Immigration and Naturalization Service (INS) proposes to install and operate a relay tower for the Nogales U.S. Border Patrol (USBP) Station in Santa Cruz County, Arizona. In the event that future illegal traffic patterns warrant the need for additional surveillance in the area, the proposed relay tower would be equipped with Remote Video Surveillance (RVS) equipment.
PURPOSE AND NEED FOR THE PROPOSED ACTION:	The purpose of the proposed relay tower is to facilitate the detection of illegal drug traffickers and undocumented aliens by providing the Nogales Station with enhanced electronic surveillance. This relay tower would also allow for the upgrade of 10 existing RVS sites, thus allowing them to function with infrared camera capabilities. This relay tower would transmit signals from the existing RVS sites and any future RVS systems within the affected area. If necessary, the tower may also be outfitted with RVS equipment in the future allowing surveillance of the area in proximity to this location. RVS systems allow the USBP to more effectively control a larger area and improve enforcement and apprehension response time. The need for the proposed relay tower is based upon illegal alien activity and limited agents available to the USBP.
PROPOSED ACTION AND ALTERNATIVES:	The Proposed Action Alternative includes the installation, operation and maintenance of one relay tower, RVS equipment, and associated construction. Other alternatives analyzed in the EA include the No Action Alternative, which would preclude the installation of the proposed relay tower. Alternatives considered but eliminated from further consideration include an increased workforce alternative and an increased aerial reconnaissance/operations alternative.
ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION:	The proposed action would involve minimal construction activities at the proposed relay tower site. The proposed relay tower site was surveyed for sensitive biological and cultural resources. No significant adverse effects to air quality, noise, protected species, cultural resources, land use, socioeconomic, or water resources are expected. Increased or enhanced interdiction of illegal entrants and activities would have positive, indirect benefits on natural resources.
CONCLUSIONS:	The construction and operation would result in no significant adverse effects, as described above. Therefore, no further analysis or documentation (*i.e.,* Environmental Impact Statement) is warranted. The U.S. Immigration and Naturalization Service, in implementing this decision, would employ all practical means to minimize the potential adverse impacts on the local environment.

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ACHP	Advisory Council on Historic Preservation
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
AHPA	Archeological and Historical Preservation Act
AMA	Active Management Area
APE	Area of Potential Effect
ASM	Arizona State Museum
BLM	Bureau of Land Management
BIA	Bureau of Indian Affairs
C	Candidate
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon monoxide
CVO	Commercial Vehicle Operations
CWA	Clean Water Act
dB	decibel
DNL	Day-Night average sound Level
EA	Environmental Assessment
E.O.	Executive Order
ER	Export Restricted
ESA	Endangered Species Act
GLO	General Land Office
HDMS	Heritage Data Management System
HR	Harvest Restricted
HS	Highly Safeguarded
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
INA	Immigrant Nationality Act
INS	Immigration and Naturalization Service
ISIS	Integrated Surveillance and Intelligence System
ITS	Intelligent Transportation Systems
JTF-6	Joint Task Force Six
$\mu g/m^3$	Micrograms per cubic meter
mg/m^3	Milligrams per cubic meter
NAAQS	National Ambient Air Quality Standards
NASQAN	National Stream Quality Accounting Network
NEPA	National Environmental Policy Act of 1969
NHPA	National Historical Preservation Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NOA	Notice of Availability
NO_2	Nitrogen Dioxide
NRHP	National Register of Historic Places
O_3	Ozone
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PM_{10}	Particulate matter
Pb	Lead

POE	Ports-Of-Entry
ppm	Parts per million
ROI	Region of Influence
ROW	Rights-of-way
RVS	Remote Video Surveillance
SA	Salvage Assessed
SAR	Search and Rescue
SHPO	State Historic Preservation Officer
SO_2	Sulfur dioxide
SPEIS	Supplemental Programmatic Environmental Impact Statement
SR	Salvage Restricted
TEA-21	Transportation Efficiency Act for the 21st Century
THPO	Tribal Historic Preservation Officers
UDAs	Undocumented Aliens
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WC	Wildlife of Special Concern

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SECTION 1.0
INTRODUCTION

1.0 INTRODUCTION

This Environmental Assessment (EA) addresses the potential effects, beneficial and adverse, of the proposed installation and operation of one relay tower along the U.S.-Mexico Border in Santa Cruz County, Arizona (Figure 1-1). In addition, this EA will address the future installation of Remote Video Surveillance (RVS) equipment on the relay tower, if necessary. The use of the proposed relay tower in conjunction with the other infrastructure would result in faster response time, which enhances the health and safety of the United States Border Patrol (USBP) agents and facilitate apprehensions, thereby creating deterrence. This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 of the U.S. Code of Federal Regulations ("CFR"), Parts 1500-1508), and 28 CFR Part 61, Appendix C, *Immigration and Naturalization Service Procedures Relating to the Implementation of the National Environmental Policy Act.*

This EA is tiered from the Supplemental Programmatic Environmental Impact Statement (SPEIS) for Immigration and Naturalization Service (INS) and Joint Task Force–Six (JTF-6) Activities (INS 2001a). This SPEIS addressed INS and JTF-6 activities along the U.S.-Mexico border and included the installation of RVS systems.

1.1 BACKGROUND AND HISTORY

Because of concerns of rising numbers of undocumented migrants, the United States Congress passed the Immigration Act of 1891, the nation's first comprehensive immigration law. The Act created the Bureau of Immigration within the Treasury Department and placed the Commissioner of Immigration in the port of New York. The Bureau of Immigration was transferred to the Department of Commerce in 1903. Immigration continued to rise, reaching a peak in 1907 when 1,285,349 immigrants arrived. Subsequent legislation (e.g., Immigration Act of 1924) that required more stringent requirements to enter the United States, coupled with the events surrounding World War I and the Great Depression, caused immigration rates to decline over the next few decades.

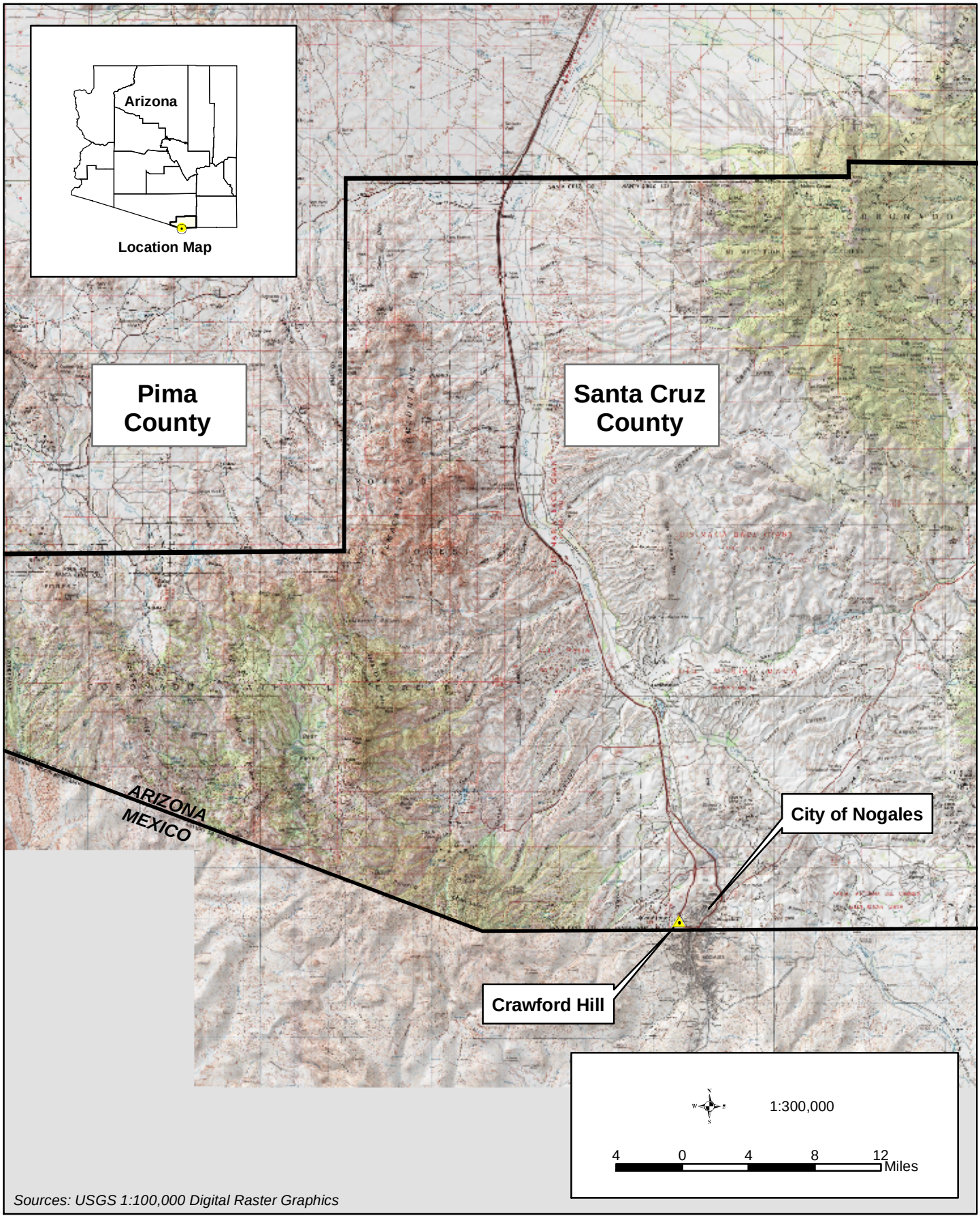

Figure 1-1: Vicinity Map

GSRC GULF SOUTH RESEARCH CORPORATION

Date: September 2002

In the years preceding World War II, the numerical quota system continued under amendments to the Immigration Act of 1924. Immigration increased quickly after the war, however, partially because of new legislation that relaxed or waived some quotas to allow immigration of war brides, refugees, and orphans. The Displaced Persons Act of 1948, the Immigration and Nationality Act of 1952, and the Refugee Relief Act of 1953 were among those acts.

Until the 1960s, the majority of immigrants to the United States came from Europe, with smaller numbers coming from Asia and other countries in the Western Hemisphere. In the 1960s the national origins principle of determining immigration quotas was discontinued after 40 years of use. During the 1960s and 1970s, legislation allowed for the immigration of refugees fleeing from political upheavals in specific countries and fleeing due to fear of persecution because of race, religion or political beliefs. It was also during this period that the Immigration and Nationality Act was amended in October 1965, placing the first numerical ceiling on the total number of immigrants into the United States, but abolished quotas by nationality. The new system provided an annual ceiling of 290,000 (later reduced to 270,000 in 1980 by Congress).

Since 1980, an average of 150,000 immigrants have been naturalized every year. At the same time, however, undocumented aliens (UDAs) have become a significant issue. INS's apprehension rates are currently averaging more than one million UDAs per year throughout the country. Studies have indicated approximately 10 million UDAs are in the United States. For the past several years, Mexicans have comprised the largest number of legal as well as illegal immigrants to the United States.

The USBP activities are administered under the Field Operations Division of the INS, which is one of three INS Executive Divisions. As mentioned previously, the USBP's primary function is to detect and prevent the unlawful entry of aliens and smuggling along the nation's land and water borders. With the increase in illegal drug trafficking, the USBP also has assumed the major Federal responsibility for illegal drug interdiction. In FY 2001, the USBP apprehended 1.3 million UDAs and seized more than 1.2 million pounds of marijuana and over 17,300 pounds of cocaine (USBP 2002). The combined street value of these drugs was over $1.2 billion.

Until the early 1990s there was limited awareness of southwest border issues and little national attention was given to illegal border activity. As a result, the USBP growth was nominal, funding for enforcement efforts fell short, and the USBP was required to function within severe constraints. Social events in the 1990s elevated the nation's awareness concerning illegal immigration and narcotics smuggling and generated substantial interest in policing the southwest border. Increased national concern has led to increases in funding and staffing and has enabled the USBP to develop effective enforcement strategies independent of conventional limitations.

The mission of the USBP is to detect, deter and apprehend illegal entry across the border. Deterrence is effected through the actual presence (24 hours per day, seven days per week) of the USBP agents on the border, fences and other physical (natural and man-made) barriers, lighting, and the certainty that the illegal entrants will be detected and apprehended. Detection of the illegal traffickers is accomplished through a variety of low-technology and high-technology resources including observing physical signs of illegal entry (vehicle tracks, footprints, refuse, human waste, clothes, etc.), visual observation of the illegal entries, information provided by private landowners or the general public, ground sensors, and RVS systems. The continuation of historic enforcement operations such as dragging operations, aerial reconnaissance, remote sensing technology, lighting, increased patrols and patrol agents, coupled with additional future infrastructure, would greatly facilitate deterrence of illegal crossings and allow the USBP to gain and maintain control of the border.

In partial response to the continued problems of smuggling and UDAs, the U.S. Congress passed the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996. Title 1, Subtitle A, Section 102 of IIRIRA states that the Attorney General, in consultation with the Commissioner of Immigration and Naturalization, shall take such actions as may be necessary to install additional physical barriers, roads and other infrastructure deemed necessary in the vicinity of the U.S. border to deter illegal crossings in areas of high entry into the U.S.

1.2 REGULATORY AUTHORITY

The mission of the INS includes the enforcement of the Immigrant Nationality Act (INA) and the performance of a uniformed, Federal law enforcement agency with authority

delegated by the U.S. Attorney General. The primary sources of authority granted to officers of the INS are the INA, found in Title 8 of the United States Code (8 U.S.C.), and other statutes relating to the immigration and naturalization of aliens. The secondary sources of authority are administrative regulations implementing those statutes, primarily those found in Title 8 of the Code of Federal Regulations (8 C.F.R. Section 287), judicial decisions, and administrative decisions of the Board of Immigration Appeals. In addition, the IIRIRA of 1996 mandates INS to acquire and/or improve equipment and technology along the border, hire and train new agents for the border region, and develop effective border enforcement strategies.

Subject to constitutional limitations, INS officers may exercise the authority granted to them in the INA. The statutory provisions related to enforcement authority are found in Sections 287(a), 287(b), 287(c), and 287(e) [8 U.S.C. § 1357(a,b,c,e)]; Section 235(a) [8 U.S.C. § 1225]; Sections 274(b) and 274(c) [8 U.S.C. § 1324(b,c)]; Section 274(a) [8 U.S.C. § 1324(a)]; and Section 274(c) [8 U.S.C. § 1324(c)] of the INA. Other statutory sources of authority are Title 18 of the United States Code (18 U.S.C.), which has several provisions that specifically relate to enforcement of the immigration and nationality laws; Title 19 [19 U.S.C. § 1401(i)], relating to U.S. Customs Service cross-designation of INS officers; and Title 21 [21 U.S.C. § 878], relating to Drug Enforcement Agency (DEA) cross-designation of INS officers.

1.3 PURPOSE AND NEED

The purpose of the proposed relay tower is to provide enhanced signal transmission of current and future RVS systems and to aide the USBP in the detection of illegal activity along the U.S. borders by allowing current and future RVS systems to provide 24-hour surveillance capabilities. The proposed relay tower would serve as a communications hub by relaying information from existing and proposed RVS systems back to the Nogales Station. The existing RVS systems are monitored at the Nogales Station and transmissions are often interrupted due to the local terrain. The proposed Crawford Hill tower would provide a clear line of transmission between the existing RVS systems and the Nogales Station tower enhancing the monitoring/surveillance effectiveness of the current systems. Without this relay tower the 10 existing and any future RVS systems within Nogales Station's AO would be rendered useless because of outdated equipment and lack of a relay tower to transmit signals back to the Nogales Station. The proposed

relay tower would be equipped with RVS equipment in the event that future illegal traffic patterns warrant the need for video surveillance in the immediate vicinity of the relay tower.

The RVS is part of an overall Integrated Surveillance and Intelligence System (ISIS) that the INS is developing along the United States' borders. RVS components facilitate the detection of illegal drug traffickers and UDAs without increasing the number of agents in the field. This additional surveillance capability would also allow the USBP to more effectively control a larger area and improve enforcement and apprehension response time. Since the September 11, 2001 terrorist attack on the United States, the anti-terrorism function of the INS is now an even more increased function of the USBP over what it has been in the past. This increased role requires more vigilance at the Ports-of-Entry (POE) and all areas along the borders.

RVS systems have become a powerful tool in the detection of UDAs and illegal drug traffickers. They have also become one of the most effective enforcement technologies in the USBP arsenal because of their capability to monitor large areas with the use of limited personnel while having minimal impact on the environment.

RVS systems are a passive all weather monitoring system which provides continuous electronic surveillance using day and night imagery. RVS systems would allow the USBP to more effectively control a larger area (a force multiplier), improve response time, and secure the safety of USBP agents and UDAs attempting to illegally enter the U.S. In addition, RVS systems would allow the USBP to apprehend illegal entrants in proximity of the border thereby resulting in a more compact enforcement area to patrol and allow for a greater agent presence. The operational effectiveness of the USBP would be greatly enhanced by increasing their surveillance capability once the relay tower equipped with RVS equipment is installed. RVS systems would also minimize exposure of USBP agents to the elements and unknown and potentially dangerous conditions.

The need for the proposed relay tower is based upon increased border activity and limited workforce available to the USBP. The U.S. experiences a substantial influx of illegal immigrants and drugs each year. Both of these illegal activities cost the American citizens billions of dollars annually due directly to criminal activities, as well as the cost of

apprehension, detention and incarceration of criminals; and, indirectly in loss of property, illegal participation in government programs and increased insurance costs.

1.4 APPLICABLE ENVIRONMENTAL STATUTES AND REGULATIONS

This EA was prepared by the Immigration and Naturalization Service, in accordance with, but not limited to the National Environmental Policy Act of 1969 (NEPA); Endangered Species Act (ESA) of 1973, as amended; the National Historic Preservation Act (NHPA) of 1966, as amended; the Archaeological and Historical Preservation Act (AHPA) of 1974, as amended; Executive Order (E.O.) No. 11593, "Protection and Enhancement of the Cultural Environment"; E.O. No. 11988, "Floodplain Management"; E.O. No. 11990, "Protection of Wetlands"; E.O. No. 13007, "Indian Sacred Sites"; E.O. No. 13045, "Protection of Children from Environmental Health Risks"; and E.O. No. 12898 "Federal Actions to Address Environmental Justice." Table 1-1 summarizes the pertinent environmental requirements that guided the development of this EA.

1.5 REPORT ORGANIZATION

This EA is divided into nine major sections, including this chapter. Chapter 2 will describe the alternatives that were considered that would satisfy the stated purpose and need. Current environmental conditions within the project area and vicinity are presented in Chapter 3. The potential impacts, beneficial and adverse, of all alternatives that are being considered are discussed in Chapter 4 including a discussion of the cumulative effects that have occurred and that are anticipated. Chapter 5 presents mitigation measures and plans to reduce, eliminate, or compensate for any adverse impacts to the human or natural environment. Chapter 6 discusses the public involvement measures that have been utilized throughout the preparation of this EA in soliciting, obtaining, and incorporating input from the general public and resource agencies. References that were used while preparing the EA, as cited in the text, are presented in Chapter 7. A list of persons responsible for preparing the EA is presented as Chapter 8. Appendix A includes comments and correspondence generated during the preparation of this EA.

Table 1-1

Applicable Environmental Statutes and Regulations

Federal Statutes
Archaeological and Historical Preservation Act of 1974
Clean Air Act of 1955, as amended
Clean Water Act of 1977, as amended
Endangered Species Act of 1973, as amended
Migratory Bird Treaty Act of 1972
National Historic Preservation Act of 1966, as amended
National Environmental Policy Act of 1969, as amended
Watershed Protection and Flood Prevention Act of 1954
Wild and Scenic Rivers Act of 1968, as amended
Farmland Protection Policy Act of 1980
Native American Graves Protection and Repatriation Act of 1990
Executive Orders, Memorandums, etc.
Floodplain Management (E.O. 11988) of 1977
Protection of Wetlands (E.O. 11990) of 1977
Federal Actions to Address Environmental Justice to Minority Populations and Low-Income Populations (E.O. 12898) of 1994
Protection of Children from Environmental Health Risks (E.O. 13045) of 1997
Protection of Migratory Birds & Game Mammals (E.O. 11629) of 2001
Indian Sacred Sites (E.O. 13007) of 1996
Consultation and Coordination with Indian Tribal Governments (E.O. 13175) of 2000
Government-to-Government Relations with Native American Tribal Governments (Presidential Memorandum) of 1994

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SECTION 2.0
ALTERNATIVES

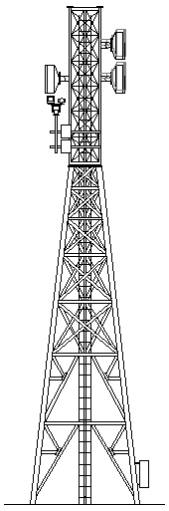
2.0 ALTERNATIVES

2.1 PROPOSED ACTION ALTERNATIVE

The Proposed Action is the installation, operation, and maintenance of one relay tower along the U.S.-Mexico border within Santa Cruz County, Arizona. In the event that future illegal traffic patterns warrant the need for additional surveillance in the area, the proposed relay tower would be equipped with RVS equipment. Since the proposed relay tower would be equipped with RVS equipment (e.g., cameras) at a future date if necessary, both the relay tower and future RVS will be collectively referred to as a relay tower. The proposed relay tower is located on Crawford Hill within the City of Nogales (31°20'15" North, 110°57'10" West). The property is currently owned by Delta Properties.

This infrastructure system would consist of a single tower approximately 120 feet (ft) in height, microwave transmission equipment, and RVS equipment, if deemed necessary at some point in the future. The relay tower would serve as a relay station for 10 existing RVS systems and future RVS systems that might be installed within the next 10 years. This proposed site would be accessed via existing roads. The specific location of the proposed relay tower is shown in Figure 2-1.

The design for the proposed Crawford Hill site would be a steel, 3-legged relay tower. An example of a relay tower equipped with an RVS system is shown in the drawing to the right. The cameras would be installed at a height that would ensure a satisfactory view and provide a clear pathway for transmission of information to other relay stations and/or the USBP station. Three circular concrete pilings, approximately three feet in diameter, would be poured at each site to anchor the tower legs in the ground. The towers and associated facilities would disturb an area up to 2,500 ft^2 (50 ft X 50 ft). Crushed stone would be placed where there is no concrete and an 8-foot chain link fence would be used to enclose the area.



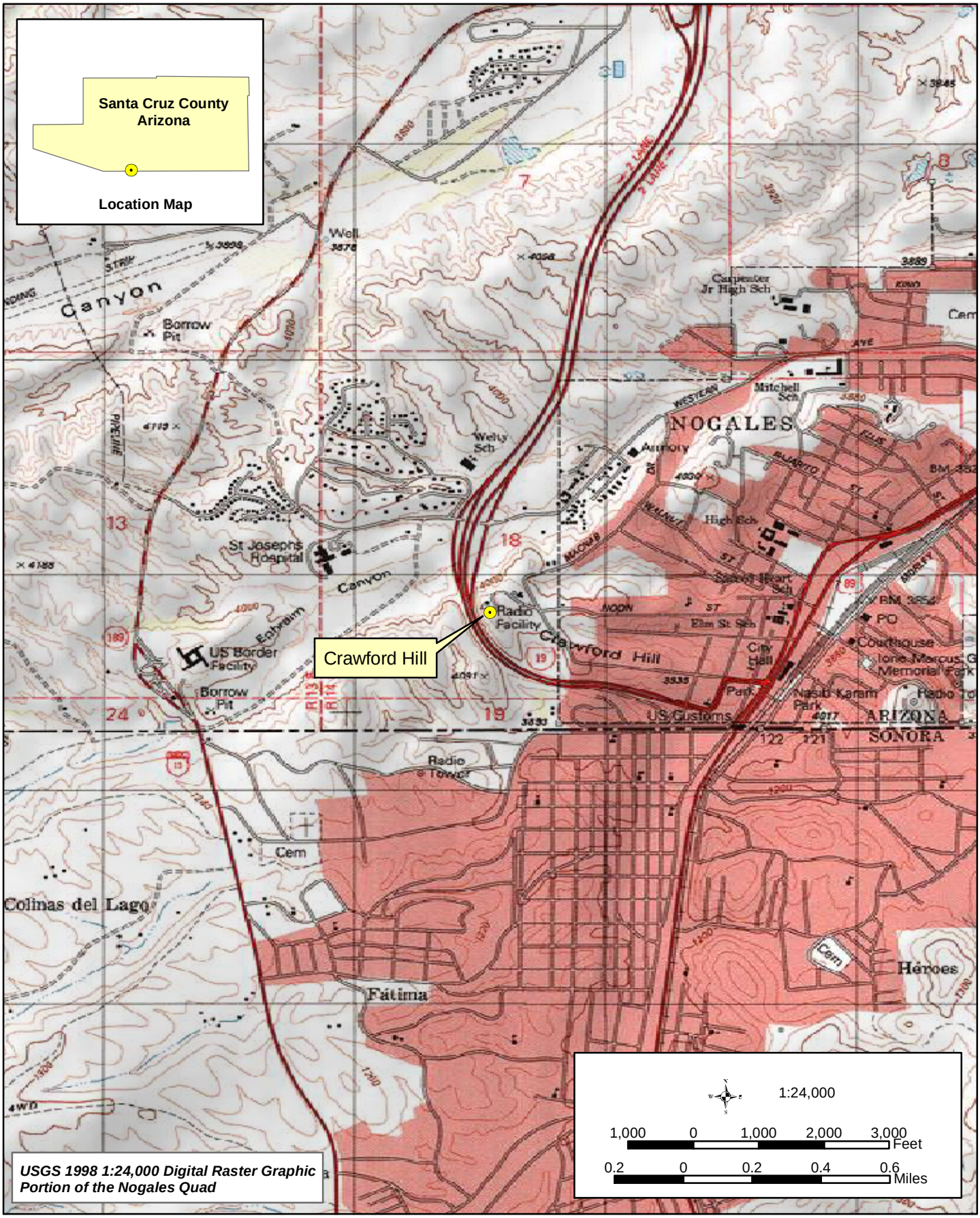


Figure 2-1: Location of Crawford Hill Relay Tower

GSRC / GULF SOUTH RESEARCH CORPORATION

Date: October 2002

Power to the relay tower would be supplied via aerial lines from the adjacent electrical grid. Microwave transmission equipment consisting of parabolic antennae would be mounted on the tower for relay purposes. An equipment shed (10-ft X 16-ft) would be installed adjacent to one side of the tower but within the fenced area. This shed would be used to store equipment such as transmission equipment, maintenance equipment, and supplies.

In addition to the relay tower being installed at the Crawford Hill site, the USBP also plans on updating their existing cameras sites within the Nogales Station AO by retrofitting 10 new modern cameras with infrared capabilities at the existing RVS locations. This action would include the removal of non-operational cameras and replacement with new infrared cameras. These systems would not require any ground disturbing activities and thus will not be discussed further.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative would preclude the installation and operation of the relay tower. Under this alternative, the existing RVS systems would eventually be rendered useless and illegal traffickers, UDAs and potential terrorists would be less likely to be immediately detected and, thus, apprehended. Additional agents would have to be deployed to provide equal level of surveillance capabilities afforded by the relay tower. In addition, the risk to USBP agents would be increased during nighttime operations by the lack or delayed detection of illegal entrants.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

2.3.1 Increased Workforce Alternative

Another alternative that was considered during the preparation of this EA was to increase the workforce at the Nogales Station. This alternative would involve increasing patrol efforts as well as stationing additional USBP agents at the 10 existing RVS sites to observe activities and detect any potential illegal entry efforts. USBP agents would have to be stationed at these sites 24 hours per day, seven days a week, and due to local topography and vegetation, would not provide the same level of detection capabilities as those 10 RVS sites. Consequently, additional observation points would have to be established to provide the same coverage as the 10 existing RVS sites, which would

disturb additional areas along the border. Such efforts would require commitment of resources and would demand an increase of about 66 (10 existing RVS sites and 1 proposed RVS site) agents per shift (assuming it would require approximately six agents to monitor an area equal to that which one RVS system can monitor) to obtain an equal level of effectiveness as the proposed relay tower.

These agents would be assigned to these observation points and would provide minimal additional strength to the station's apprehension capabilities. In addition, the purchase of additional equipment would be necessary due to the fact that USBP agents and/or their vehicles would have to be equipped with infrared cameras or spotting scopes to allow night observations, or portable or permanent lights would need to be installed to aid in detection.

Due to the increased workforce needs and additional equipment required to meet the same level of detection, this alternative was not considered viable because it does not satisfy the purpose and need. The additional staff would not provide additional flexibility in the station's enforcement strategy. In addition, the effectiveness of the existing RVS systems would not be enhanced under this alternative since the transmission relay capabilities would remain status quo.

2.3.2 Increased Aerial Reconnaissance/Operations

Under this alternative, increased aerial reconnaissance would involve the use of helicopters and fixed-wing aircraft for surveillance in support of the Nogales Station. Under this alternative, INS would use fixed-wing aircraft and helicopters to perform reconnaissance and detection operations as well as to support ground patrols.

This alterative was eliminated from further consideration because it does not satisfy the purpose and need of the project. The purpose and need calls for enhancement of the 24-hour, all weather RVS system for detection of illegal activities. Aerial reconnaissance/operations require highly skilled pilots, who cannot be used on a 24-hour per day basis, and cannot operate under all weather conditions. Aerial reconnaissance/operations also have limited detection capabilities in areas such as deep ravines, at nighttime, and in thick vegetation.

Aerial reconnaissance/operations are also limited over or near military installations, National Parks and Monuments, wilderness areas, and near commercial airports. The Federal Aviation Administration and/or the Department of Defense impose flight restrictions on USBP operations on missions over or near their facilities. Aerial reconnaissance/operations also have restricted flight patterns near endangered species or other sensitive wildlife habitats, at nighttime, and over Indian reservations or other sacred cultural sites. This alternative was also considered undesirable, as the residents of Nogales and visitors would be subjected to constant aircraft noise and would detract from the community.

This alternative does not provide an adequate alternative to the proposed action and does not meet the operational criteria identified for the proposed action. Aerial reconnaissance/operations have proven to be an effective border enforcement strategy in some regions of the border. For example, aerial operations have proven highly effective in areas where the open terrain, low growing vegetation, and sandy soils allow UDAs and signs of other illegal border traffic to be easily recognized from aircraft. Additionally, aerial reconnaissance/operations have become invaluable to USBP agents and UDAs for performing Search and Rescue (SAR) missions and during vehicle pursuits. Due to their effectiveness in given situations and specific areas of the border, increasing aerial reconnaissance/operations may be an effective solution in given areas or to meet the purpose and need of other INS activities. In addition, the efficacy of the existing RVS systems would not be enhanced under this alternative since the transmission relay capabilities would remain status quo and the 10 RVS systems would eventually be rendered useless.

2.4 SUMMARY

Two alternatives, the No Action Alternative and the Proposed Action Alternative, will be carried forward for analysis. A summary matrix (Table 2-1) presents each of the alternatives in comparison to the stated purpose and need. Table 2-2 presents a summary matrix of the impacts from the two alternatives carried forward for analysis and how they affect the environmental resources in the Region of Influence (ROI).

Table 2-1. Alternative Matrix

	Compliance with Alternatives			
Requirements	**No Action**	**Proposed Action Alternative**	**Increased Aerial Reconnaissance/ Operations**	**Increased Workforce Alternative**
Enhance signal transmission of current RVS systems	No	Yes	No	No
Ability to monitor a large area 24 hours a day in all weather conditions	No	Yes*	No	Partial
Improve USBP response time	No	Yes	Partial	Yes
Enhance the safety of USBP agents	No	Yes	Partial	No
Reduce number of field agents	No	Yes	Yes	No
Deterrence of illegal aliens	No	Yes	Yes	Yes

* The Proposed Action Alternative will fulfill the requirements by enhancing the capability of existing RVS systems.

Table 2-2. Summary Matrix of Potential Impacts

Affected Environment	No Action Alternative	Proposed Action Alternative
Land Use	No impacts	No effect on current land use
Soils and Prime Farmlands	No direct impacts; indirect impacts would continue from illegal traffic and consequent enforcement activities.	Approximately 2,500 ft^2 of soils would be permanently impacted. No prime or unique farmlands would be impacted.
Vegetation Communities	No direct impacts; illegal traffic would indirectly impact vegetation communities.	The proposed site location for the relay tower has been previously disturbed, however, up to 2,500 ft^2 could be impacted.
Fish and Wildlife Resources	No direct impacts; illegal traffic would continue to damage vegetation thereby causing synergistic impacts to wildlife.	The proposed site location for the relay tower has been previously disturbed, however, 2,500 ft^2 of wildlife habitat could be impacted.
Unique and Sensitive Areas	No direct impacts; illegal traffic would continue to damage unique and sensitive areas by causing accidental wildfires, creating trails, and discarding trash.	No impacts.
Protected Species and Critical Habitat	No direct impacts; indirect impacts due to illegal traffic trampling habitat and threatened and endangered plant species.	No impacts.
Cultural Resources	No impacts.	No significant impacts.
Air Quality	No direct impacts; indirect impacts from additional patrol activities.	Short-term degradation in local air quality during construction; impacts considered insignificant.
Water Resources	No impacts.	No impacts.
Environmental Justice and Protection of the Children	No direct impacts regarding environmental justice or protection of the children. Indirect impacts to protection of the children would result from illegal traffic and its associated criminal activity continuing to creating a more unsafe environment for children.	No impacts to environmental justice. Beneficial impacts to protection of the children from a reduction of illegal immigration, drug trafficking, and other crimes within the area creating a safer living environment for the children on both sides of the border.
Noise	No direct impacts; indirect impacts would result from illegal foot traffic. Other illegal activity would continue and probably increase resulting in the need for additional patrols or aerial reconnaissance.	Temporary, insignificant increases in ambient noise levels during construction.

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SECTION 3.0
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This section of the EA describes the natural and human environment that exists in the Nogales region. Only those parameters that have the potential to be affected by the proposed action are described. Those items/issues not discussed further include hazardous material, floodplains, socioeconomics, aesthetics, infrastructure, and coastal zone management. These parameters are not discussed because:

- Hazardous materials
  No hazardous materials would be used during construction nor were any hazardous materials observed within or near the project area.

- Floodplains
  The proposed site is not located in the 100-year or 500-year floodplain and the site is located on a high ridge (Crawford Hill).

- Infrastructure
  The project area is in an existing developed area with existing access roads.

- Coastal zone management
  The proposed project is not located within a coastal zone.

- Socioeconomics
  The installation of one relay tower/RVS site would have negligible effects to socioeconomics within the project area.

- Aesthetics
  The project is located adjacent to existing towers, a water tank, and a developed area.

- Geology
  The project involves minor construction activities that would have a negligible affect on the local geology and have no affect on aquifers including recharge zones, or seismicity.

General descriptions of the resources at or surrounding the project area are provided in the following subsections.

3.1 LAND USE

The proposed project site is located on property owned by Delta Properties. This area is currently in use as a site for communication towers, a water tank, and equipment sheds. The surrounding areas consist of roadways and developed areas.

3.2 SOILS AND PRIME FARMLAND

The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) soil survey of Santa Cruz and parts of Cochise and Pima Counties, Arizona was reviewed to determine general soil types/associations found within the project corridor (USDA 1979). The soil association found in the proposed project site is the Rock Outcrop-Lithic Haplustolls Association. The Rock Outcrop-Lithic Haplustolls Association is often found on mountains and hills consisting of rocky outcroppings. These soils are typically found in elevations ranging from 4,000 feet to 8,500 feet and are commonly used for range and wildlife habitat.

The Farmland Protection Policy Act of 1980 and 1995 was established to preserve farmland. This act calls for identification of proposed actions that would affect any land considered as unique or prime farmland (U.S. Bureau of Reclamation 2002). Prime farmlands are those farmlands that have the best combinations of physical and chemical properties to be able to produce fiber, feed, food, and is available for these uses. Unique farmland is defined as land other than prime farmland that is used for producing specific high-value food and fiber crops. The aforementioned soil found at the proposed site is not considered to be prime farmland (USDA 1979).

3.3 BIOLOGICAL RESOURCES

3.3.1 Vegetation

There are four biotic provinces in Arizona. The proposed relay tower is situated within the Apachian province which runs west from the New Mexico-Arizona state line through a large portion of Cochise County, Santa Cruz County, and parts of Pima County (Dice 1943). The Apachian biotic province covers the high grassy plains and mountains of

southeastern Arizona and consists of plant and wildlife species adapted to semiarid conditions.

3.3.2 Project Site Vegetation

Photo 1. Proposed Crawford Hill Site facing south.

The proposed relay tower site is located within Santa Cruz County near the city of Nogales, Arizona (see Figure 2-1). Surveys were conducted at the proposed relay tower location during the week of March 18, 2002, to ascertain the existing conditions. Although biologists collected data regarding general wildlife and vegetation, they focused their efforts on the protected species described later in Section 3.4.1. No Federal or state listed species were observed at the proposed site. A site-specific description of the site, based on these surveys, is provided in the following paragraph.

Photo 2. Proposed Crawford Hill Site facing north.

The proposed Crawford Hill site has been previously disturbed due to existing roadways, vehicle traffic, and existing infrastructure (i.e., buildings, towers, and water tank). Common plants found at the proposed relay tower site included desert broom (*Baccharis sarothroides),* and love grass (*Eragrostis* sp.). Other vegetation adjacent to the proposed relay tower site included specimens of Palmer's agave (*Agave palmeri*), blue dicks (*Dichelostemma pulchellum*), honey mesquite (*Prosopis glandulosa*), tumbleweed (*Salsola kali*), and fairyduster (*Calliandra eriophylla benth*).

3.3.3 Fish and Wildlife Resources

The native faunal components of southeastern Arizona includes some 370 species of birds, 109 mammal species, 23 amphibian species, and 72 species of reptiles, (Lowe 1964; Hoffmeister 1986; Lane 1988; USDOI 1989; USACE 1990; Davis and Russell 1991; Lowe and Holm 1992). However, no aquatic communities or wildlife were observed at the Crawford Hill site during the site visit in March 2002.

3.4 PROTECTED SPECIES AND CRITICAL HABITAT

The Endangered Species Act (ESA) [16 U.S.C. 1532 et. seq.] of 1973, as amended, was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protection programs for designated species and to use their authorities to further the purposes of the act. Responsibility for the identification of a threatened or endangered species and development of any potential recovery plan lies with the Secretary of the Interior and the Secretary of Commerce.

An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those, which have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered endangered or threatened when any of the five following criteria occurs: (1) the current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affect continued existence.

In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate (C) designation includes those species for which the USFWS has sufficient information on hand to support proposals to list as endangered or threatened under the ESA. However, proposed rules

have not yet been issued because such actions are precluded at present by other listing activity.

3.4.1 Federal

A total of 22 Federally endangered, threatened, proposed threatened and candidate species occur within Santa Cruz County, Arizona (USFWS 2002). A proposed threatened or endangered species is a species. subspecies, or varieties for which a proposed regulation, but not a final rule, has been published in the *Federal Register*. A total of 14 species are listed as endangered, four as threatened, one as proposed endangered, and three as candidate (Table 3-1).

No evidence of Federally listed threatened or endangered species or their preferred habitat were found within the proposed project site during the site visit in March 2002.

The range of the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) is from "southern Arizona and extreme southwestern New Mexico, through western Mexico, and south to El Salvador" (Bat Conservation International 2001, University of Arizona 2001). The occurrences in southern Arizona range from "the Picacho Mountains southwest to the Agu Dulce Mountains, southeast to the Chiricahua Mountains" (University of Arizona 2001). Surveys for potential habitat, roosting habitat, and food sources were conducted at the proposed relay tower site during March 2002 and were based on the presence of the columnar cacti and agaves, which are preferred food sources, and appropriate roosting and breeding sites, such as caves and mines (Bat Conservation International 2001, University of Arizona 2001). No such cacti or roosting and breeding sites were observed in or near the proposed site. Palmer's agave, a potential food source for the lesser long-nosed bat, was observed at or near the proposed relay tower site during the site visits.

3.4.2 State

The Arizona Game and Fish Department (AGFD) maintains lists of Wildlife of Special Concern in Arizona (WC). This list includes flora and fauna whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines (AGFD 2002). These species are not necessarily the same as those protected by the Federal government under the ESA.

Table 3-1

Federally Listed, Proposed, and Candidate Species Potentially Occurring within Santa Cruz County, Arizona

Common/Scientific Name	Status	Date Listed	Habitat
PLANTS			
Canelo Hills ladies'-tresses *Spiranthes delitescens*	E	1/6/97	Finely grained, highly organic, saturated soils of cienegas
Huachuca water umbel *Lilaeopsis schaffneriana ssp. recurva*	E	1/6/97	Cienegas, perennial low gradient streams, wetlands
Pima pineapple cactus *Coryphantha scheeri var. robustispina*	E	9/23/93	Sonoran desertscrub or semi-desert grassland communities.
BIRDS			
Bald eagle *Haliaeetus leucocephalus*	T	1/12/95	Large trees or cliffs near water with abundant prey
Cactus ferruginous pygmy-owl *Glaucidium brasilianum cactorum*	E	3/10/97	Mature cottonwood/willow, mesquite bosques, and Sonoran Desertscrub
California brown pelican *Pelecanus occidentalis californicus*	E	3/6/85	Feed in shallow estuarine waters; nest on small coastal islands
Mexican spotted owl *Strix occidentalis lucida*	T	3/15/93	Nests in canyons and dense forests with multi-layered foliage structure
Northern aplomado falcon *Falco femoralis septentrionalis*	E	1/25/86	Grassland and savannah
Southwestern willow flycatcher *Empidonax traillii extimus*	E	2/27/95	Cottonwood/willow and tamarisk vegetation communities along rivers and streams
Yellow-billed cuckoo *Coccyzus americanus*	C		Large blocks of riparian woodlands
AMPHIBIANS			
Chiricahua leopard frog *Rana chiricahuensis*	T	6/13/02	Streams, rivers, backwaters, ponds, and stock tanks
Sonora tiger salamander *Ambystoma tigrinum stebbinsi*	E	1/6/97	Stock tanks and impounded cienegas in San Rafael Valley, Huachuca Mountains
INVERTEBRATES			
Huachuca springsnail *Pyrgulopsis thompsoni*	C	1/6/89	Aquatic areas, small springs with vegetation slow to moderate flow
Stephan's riffle beetle *Heterelmis stephani*	C		Free-flowing springs and seeps
MAMMALS			
Jaguar *Panthera onca*	E	3/28/72	Found in tropical rainforests, arid scrub, and wet grasslands and prefer dense forests or swamps with a ready supply of water
Lesser long-nosed bat *Leptonycteris curasoae yerbabuenae*	E	9/30/88	Desert scrub habitat with agave and columnar cacti present as food plants
Mexican gray wolf *Canis lupus baileyi*	E	3/11/67	Chaparral, woodland, and forested areas; may cross desert areas

Table 3-1, cont'd.

Federally Listed, Proposed, and Candidate Species Potentially Occurring within Santa Cruz County, Arizona

Common/Scientific Name	Status	Date Listed	Habitat
Ocelot *Leopardus pardalis*	E	7/21/82	Humid tropical and sub-tropical forests, savannahs, and semi-arid thornscrub
FISHES			
Desert pupfish *Cyprinodon macularius*	E	3/31/86	Shallow springs, small streams, and marshes.
Gila chub *Gila intermedia*	PE	9/18/85	Pools, springs, cienegas, and streams
Gila topminnow *Poeciliopsis occidentalis occidentalis*	E	3/11/67	Small streams, springs, and cienegas vegetated shallows.
Sonora chub *Gila ditaenia*	T	4/30/86	Perennial and intermittent shallow to moderate streams with boulders and cliffs

Source: AGFD & HDMS, 2002. Last Updated July 15, 2002.

Legend: E – Endangered C – Candidate
T – Threatened PE – Proposed Endangered

The Arizona Department of Agriculture maintains a list of protected plant species within Arizona. The 1999 Arizona Native Plant Law defined five categories of protection within the state. These include: Highly Safeguarded (HS), no collection allowed; Salvage Restricted (SR), collection only with permit; Export Restricted (ER), transport out of state prohibited; Salvage Assessed (SA), permit required to remove live trees; and Harvest Restricted (HR), permit required to remove plant by-products (AGFD 2002).

There was no evidence of or observations of any state-listed WC in the project area during the March 2002 site visit.

Two species, Palmer's agave (SR) and honey mesquite (HR, SA) were observed at the proposed relay tower site that is protected under the Arizona Native Plant Law. A Notice of Intent to Clear Land Form would be filed with the Arizona Department of Agriculture 30 days prior to the initiation of construction activities.

3.4.3 Critical Habitat

The ESA also calls for the conservation of what is termed Critical Habitat - the areas of land, water, and air space that an endangered species needs for survival. Critical habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water development. There are no designated critical habitats within or near the proposed project site.

3.5 UNIQUE AND ENVIRONMENTALLY SENSITIVE AREAS

Southeastern Arizona is an ecological crossroads, where habitats and species from the Sierra Madre of Mexico, the Rocky Mountains, and the Sonoran and Chihuahuan deserts converge. Ongoing efforts by many government agencies, as well as private entities, have set aside these areas for preservation. These areas are intended for use by the public in hopes of better understanding of the myriad of natural systems exhibited in their natural state. Riparian (riverbank) areas, basin wetlands, scenic canyons, and vast wilderness represent these unique areas. No unique and sensitive areas are located near the proposed relay tower site.

3.6 AIR QUALITY

3.6.1 Applicable Air Quality Statutes

The Clean Air Act, last amended in 1990, requires the U.S Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Act established two types of NAAQS. Primary standards set limits to protect the public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The USEPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for six criteria pollutants (Table 3-2). Areas where air pollution levels persistently violate the NAAQS may be designated non-attainment. Santa Cruz County is located within USEPA's Region 9 and is currently in non-attainment for particulates (PM_{10}) (USEPA 2002).

Table 3-2. National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE*	STANDARD TYPE
Carbon Monoxide (CO)		
8-hour average	9ppm (10mg/m^3)	P
1-hour average	35ppm (40mg/m^3)	P
Nitrogen Dioxide (NO_2)		
Annual arithmetic mean	0.053ppm (100μ/m^3)	P and S
Ozone (O_3)		
1-hour average	0.12ppm (235μg/m^3)	P and S
8-hour average	0.08ppm (157μg/m^3)	P and S
Lead (Pb)		
Quarterly average	1.5μg/m^3	P and S
Particulate<10 micrometers (PM_{10})		
Annual arithmetic mean	50μg/m^3	P and S
24-hour average	150μg/m^3	P and S
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15μg/m^3	P and S
24-hour Average	65μg/m^3	P and S
Sulfur Dioxide (SO_2)		
Annual arithmetic mean	0.03ppm (80μg/m^3)	P
24-hour average	0.14ppm (365μg/m^3)	P
3-hour average	0.50ppm (1300μg/m^3)	S

Source: USEPA 2001.

Legend: P = Primary S = Secondary
ppm = parts per million mg/m^3 = milligrams per cubic meter
μg/m^3 = micrograms per cubic meter
*Parenthetical value is an approximately equivalent concentration.

3.7 WATER RESOURCES

The proposed project area is located in the Santa Cruz Active Management Area (AMA). This AMA consists of 716 square miles and is located in the basin and range physiographic province. The Santa Cruz River bisects the AMA, forming a river valley bordered on the east by the Patagonia, San Cayentano, and Santa Rita Mountains and bordered on the west by the Pajarito, Atacosa, and Tumacácori Mountains.

3.7.1 Water Quality

Water quality data are collected from a series of monitoring stations by the Arizona Department of Water Resources (ADWR) and by the U.S. Geological Survey's (USGS)

National Stream Quality Accounting Network (NASQAN) program. The quality of water in the Upper Santa Cruz AMA has been classified by ADWR as suitable for most uses (ADWR 2002).

3.7.2 Groundwater

Groundwater in the Nogales area is supplied from the Upper Santa Cruz River valley that forms three aquifer units: the Nogales formation, older alluvium, and younger alluvium. Potential sources of contamination of groundwater include mining operations, municipal point sources including wastewater effluent, agriculture irrigation and recirculation, range management, and non-point sources.

3.7.3 Waters of the U.S. and Wetlands

Section 404 of the Clean Water Act (CWA) of 1977 (P.L. 95-217) authorizes the Secretary of the Army, acting through the U.S. Army Corps of Engineers (USACE), to issue permits for the discharge of dredged or fill material into Waters of the United States, including wetlands. Waters of the United States (Section 328.3[2] of the CWA) are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands. Waters of the United States are further defined as all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds or impoundments of waters, tributaries of waters, and territorial seas. Jurisdictional boundaries for Waters of the United States are defined in the field as the ordinary high water mark which is that line on the shore or bank established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987).

No potential jurisdictional wetlands or Waters of the U.S. were observed at the Crawford Hill relay tower site during the site visit conducted during the week of 18 March 2002.

3.8 NOISE

Noise is generally described as unwanted sound, which can be based either on objective effects (hearing loss, damage to structures, etc.) or subjective judgments (community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as a sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA (USEPA 1972) and has been adopted by most Federal agencies (Federal Interagency Committee on Noise 1992).

3.9 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) requires the USBP to identify and assess the effects of its actions on cultural resources. Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, and any other physical evidence of human activities considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. The USBP must consult with appropriate State and local officials, Indian tribes, applicants for Federal assistance, and members of the public and consider their views and concerns about historic preservation issues when making final project decisions. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the Advisory Council on Historic Preservation (ACHP). Revised regulations, "Protection of Historic Properties" (36 CFR Part 800), became effective 11 January 2001.

3.9.1 Cultural Overview

A brief cultural setting is presented for the project area within this section. The cultural setting of the project area is generally divided into six different periods: Pre-Clovis, Paleoindian, Archaic, Formative, Late Prehistory and Protohistory, and Spanish Exploration and Settlement. These periods are commonly subdivided into smaller temporal phases based on particular characteristics of the artifact assemblages

encountered in each of three archeological regions within southern Arizona. The prehistoric periods and corresponding phases are defined by the presence of particular diagnostic artifacts such as projectile points, certain types of pottery, and occasionally, particular site locations. For the historic periods, documentary information more often is used to distinguish certain phases; nevertheless, particular artifacts also can be used to recognize certain historic affiliations. The following cultural chronology is taken predominantly from Hathaway and Yost (2002) except where noted.

Pre-Clovis or "Early man sites" in the New World, those defined as being occupied prior to 12,000 years ago, are most frequently reported in the southwestern deserts. Early man sites have been reported for ancient Lake Mannix, China Lake, Calico, and the Yuha Desert in California (Schuiling 1972; Davis 1978; Davis et al. 1981), and the Sierra Pinacate region of nearby Sonora, Mexico (Hayden 1976; Moratto 1984). No claims for humans in southern Arizona predating 12,000 years ago have met the scrutiny of the entire scientific community. At present, the earliest widely accepted human presence in the area is the Paleoindian Period (ca. 9500-6000 B.C.).

During the Paleoindian Period (9500-6000 B.C.) the project area was cooler and moister than at present with more abundant vegetation and occasional lakes, which are now evaporated. Pleistocene megafauna inhabited the area and were used as game by the Paleoindian hunters. The Paleoinidian people were organized as small-scale, mobile, socially fluid hunters and gathers. The Paleoindian Period is further divided in three complexes or phases: the Clovis Complex (ca. 9500-9000 B.C.), the Folsom Complex (ca. 9000-8000 B.C.) and the Plano Complex (ca. 8000-6000 B.C.).

The Archaic Period saw gradually drier and warmer conditions. These changes in the environment along with the extinction of the megafauna prompted subsequent changes in the stone tools of the Archaic people. There was the introduction of ground stone tools and grinding stones. The Archaic Period in southwestern New Mexico and southeastern Arizona has been defined as the Cochise tradition. The Cochise Tradition has been subsequently divided in various ways into the following phases: Sulphur Spring phase (6000-3500 B.C.), the Chiricahua phase (3500-1500 B.C.), the San Pedro phase (1200-800 B.C.), and the relatively recently proposed Cienega phase (800 B.C.-A.D. 200). The introduction of agriculture occurred during the Late Archaic Period, particularly the San

Pedro and Cienega Phases. Though agriculture was adopted during this period, it is generally thought that it was a minor activity and that hunting and gathering still provided the dominant subsistence activity. From his work in the Cienega Valley, B. B. Huckell proposed that maize farming was more important than previously thought and that the late Archaic populations were at least semi-sedentary (Hathaway and Yost 2002). As a result, he proposed that the period 1500 B.C. –A.D. 200 be redefined as the "Early Agricultural Period," separate from the Archaic Period. Archaeological sites from this time period are of particular importance in answering questions regarding the importance of agriculture in the economy, settlement patterns, and the degree of social organization that existed during this time period.

The Formative Period denotes a stage at which a population has an adequate subsistence base and social organization to sustain village life (Hathaway and Yost 2002). During this stage agriculture becomes the dominant subsistence strategy. Also during this stage, ceramics assemblages become prominent, so much so that sometimes this period is referred to as the Ceramic Period. Near the project area, the Hohokam (300 B.C.-1450 A.D.) and Mogollon cultures, particularly for this area the San Simon Mogollon (A.D. 900-1200), plus elements of Trinceras, Chihuahuan, and Salado traditions are evident. These cultures and traditions vary regionally and temporally with one another. The Pueblo Culture Period, marked by the appearance of rock and adobe pueblos, has also been defined in the project area, though much of the material from this period could also be incorporated into the either the Mogollon or Hohokam traditions. The phases of the Pueblo Culture Period for the project area consists of the Ringo phase (A.D. 1250-1325), the Animas phase (A.D. 1175-1350), and the Salado phase (A.D. 1300-1450). The temporal and cultural sequences in the vicinity of the project area are poorly understood making exact sequences tenuous at best. Archaeological sites within the project area dating to the Formative Period are of particular importance in defining both the temporal and cultural sequences of the area.

By the late 1400s much of the Hohokam and Mogollon areas appear to have been abandoned. After the collapse of the Hohokam regional system, the Sobaipuri, Pima, and Tohono O'odham occupied the region, distinguished by environmental adaptations and geographic regions. The southern Athapaskans or Apache moved into the southwest by approximately 1500. Seven groups of Athapaskan-speaking people are recognized:

Chiricahua, Jicarilla, Kiowa-Apache, Lipan, Mescalero, Navajo, and Wester Apache. Both the Chiricahua and Western Apaches were in southeastern Arizona.

Spanish Exploration and settlement of the area did not begin till 1536 by Cabeza de Vaca. This early exploration inspired Fransico Vasquez de Coronado to lead a large military expedition in 1540 and entered what is now the U.S. in southeastern Arizona. The colonial period and Spanish settlement of the area began much later than it did in New Mexico and western Texas. Building new missions in the area was largely the effort of Father Eusebio Fransico Kino who established the first mission in the Santa Cruz Valley in 1691. Spanish rule in the 18th century was well established in the Rio Grande Valley though Native American groups challenged Spanish rule throughout the area through a series of rebellions by the Yaquis, the Pimas, the Seris and Lower Pimas, along with raids and warfare with the Apaches. In southeastern Arizona the Spanish military authority and the Jesuits conflicted over control of the Native American populations. The military and civilian land owners wanted control of the Native population for labor. The military established garrisons or presidios. By 1767, the Jesuits were expelled from New Spain. Presidios were established across southern Arizona to provide defense against raiding Apaches, and thus protect local settlers encouraging further settlement of the area. The discovery of silver and copper in the region further encouraged settlement of the area (INS 2001a; Vargas et. al. 2002).

The most significant event of the 19th century for the region was Mexico's independence from Spain in 1821. During this period, land grants were made to encourage settlement of the area. The Mexican-American War (1846-1848) arose out of America's desire to expand it borders to the Pacific Ocean, and border disputes between the U.S. and Mexico over the newly independent Texas, which was annexed by the U.S. The new international boundary ran along the Rio Grande from it mouth to just north of El Paso then west to the Pacific Ocean. The Gadsen Purchase, which was negotiated in 1853 and ratified in 1854, added the lands in southern Arizona and New Mexico establishing the border we have today. The newly acquired areas were not very well protected and near-anarchy within the region began to take root. This led to the establishment of Arizona County from the western portion of Doña Ana County, New Mexico, with Tucson as its county seat. Arizona joined as a territory of the Confederate States of America but fell quickly that summer to Union forces and became a U.S. territory and placed under Martial law (INS

2001a; Varagas et. al. 2002). The Arizona territory was finally established in 1863. During the late nineteenth century the discovery of precious metals and the development of ranching produced a significant influx of Euro American settlers into the area and towns such as Douglas, Bisbee and Tombstone were established. Military forts and camps were established to protect the growing population of settlers from Apachean attacks. By the late 1880s the Apaches were pacified which resulted in greater expansion of mining, ranching, and settlement (INS 2001a).

3.9.2 Past Investigations

A literature review conducted at the Arizona State Museum (ASM), Arizona State Historic Preservation Office (SHPO), and Coronado National Forest identified several previously completed surveys near the project area. These previous surveys were conducted for proposed aggregate materials sources, roadway improvement projects, light towers, and activities related to the USBP and INS operations. No known archaeological surveys or previously recorded archaeological sites exist within the current Area of Potential Effect (APE) of the relay tower site.

3.9.3 Current Investigations

A Class III (intensive field survey) was conducted at the site within the APE. The survey was conducted from March 25-28, 2002. Site files were also reviewed at the ASM, and the SHPO office to identify previous projects and sites that occur within or near the project area. In addition, the General Land Office (GLO) maps housed at the Bureau of Land Management (BLM) State Office in Phoenix were examined in order to identify any historic structures and potential archaeological sites located on those maps. No archaeological resources were found during the survey. However, the Crawford Hill site is located within ½-mile of two historic districts, the Crawford Hill Residential Historic District and the Marsh Heights Historic District.

3.10 EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE

The fair treatment of all races has been assuming an increasingly prominent role in environmental legislation and implementation of environmental statutes. In February 1994, President Clinton signed Executive Order (EO) 12898 titled, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

This action requires all Federal agencies to identify and address disproportionately high and adverse effect of its programs, policies, and activities on minority and low-income populations.

Even though the ROI exhibits high minority populations, particularly groups claiming Hispanic origin, the relay tower would not have an adverse effect on the minority populations located near the project site.

3.11 EXECUTIVE ORDER 13045, PROTECTION OF CHILDREN

EO 13045 requires each Federal Agency "to identify and assess environmental health risks and safety risks that may disproportionately affect children"; and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. Due to the fact that the proposed relay tower site is located in an existing developed area, issues regarding Protection of Children are not anticipated.

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

This section of the EA addresses potential impacts associated with the implementation of the alternatives outlined in Section 2.0. This section of the EA addresses potential impacts associated with the implementation of the alternatives outlined in Section 2.0. The tower would require very little, if any, maintenance activities. Any such activities would be mostly limited to electronic/computer maintenance, and therefore, would not have any significant negative impacts to the natural or human environment. The following paragraphs discuss the expected impacts from the installation, operation, and maintenance of the proposed relay tower.

4.1 LAND USE

4.1.1 No Action Alternative

Implementation of the No Action Alternative would not affect current land use in the project area.

4.1.2 Proposed Action Alternative

The Proposed Action Alternative would not affect current land use for the project area since the area surrounding the proposed relay tower site is developed and contains other infrastructure such as water tanks and towers.

4.2 SOILS AND PRIME FARMLAND

4.2.1 No Action Alternative

The No Action Alternative would not allow the installation of the Crawford Hill relay tower. Therefore, no direct impacts to soils would occur. However, the USBP would not be as effective in detecting and apprehending illegal entrants and foot traffic would continue at its current level and probably increase. The continuation of illegal traffic and consequent enforcement activities have the potential of adversely impacting soils in the project region.

4.2.2 Proposed Action Alternative

Implementation of the proposed action would disturb a minimal amount (2,500 ft^2) of soils. These soils have been previously disturbed from roadways, traffic, and other activities. Thus, the impacts to soils by the Proposed Action Alternative would be negligible.

4.3 BIOLOGICAL RESOURCES

4.3.1 Vegetation Communities

4.3.1.1 No Action Alternative

Under the No Action Alternative, illegal traffic would continue to adversely impact vegetation communities. The USBP would not be as effective in detecting and apprehending illegal entrants and foot traffic without the establishment of the relay tower along the border. Illegal activity along the borders would continue at its current level and probably increase.

4.3.1.2 Proposed Action Alternative

Installation of the relay tower would impact a maximum of 2,500 ft^2. Very little, if any, vegetation would be damaged at the proposed locations, since vegetation is currently lacking due to past disturbances from roadways, traffic, and other activities.

Due to the limited size of the area required for the system and the presence of similar habitat in the surrounding areas, impacts to vegetation communities would be insignificant. Once the relay tower is installed, the operation and maintenance of the system would have no effect on the vegetation within the project area.

4.3.2 Fish and Wildlife Resources

4.3.2.1 No Action Alternative

Under the No Action Alternative, there would be no construction of the relay tower. As a result, the USBP would not be as effective in detecting and apprehending UDAs and illegal foot and vehicle traffic would continue at its current level and probably increase. This illegal traffic and consequent USBP enforcement actions damages vegetation communities and thereby cause synergistic impacts to wildlife from the trampling of vegetation and wildfires.

4.3.2.2 Proposed Action Alternative

No significant impacts to wildlife populations are anticipated. Some losses of individual specimens, particularly fossorial or sedentary species, might occur as a result of direct contact with construction equipment and vehicles. Once the relay tower is installed, the operation and maintenance of the relay tower would have no adverse effect on the region's wildlife.

4.4 PROTECTED SPECIES AND CRITICAL HABITAT

4.4.1 No Action Alternative

Implementation of the No Action Alternative would not allow the construction of the relay tower; therefore, no direct impacts to protected species would occur under this alternative. However, indirect impacts could potentially occur from illegal traffic trampling threatened and endangered plant species or habitats used by protected animal species.

4.4.2 Proposed Action Alternative

No threatened or endangered species were observed within the project area during a recent (March 2002) survey. Therefore, no adverse impacts to Federally listed threatened and endangered species are anticipated as a result of the implementation of the Proposed Action Alternative. Individual specimens of Palmer's agave should be flagged and avoided to the extent practicable to avoid effect to potential food sources of the lesser long-nose bat. Indirect benefits would be expected as the relay tower would reduce illegal traffic in the area indirectly reducing impacts on protected species and critical habitats like trampling of vegetation and threatened and endangered plant species and disturbing wildlife.

4.5 UNIQUE AND ENVIRONMENTALLY SENSITIVE AREAS

4.5.1 No Action Alternative

The No Action Alternative would not allow the installation of one relay tower. As a result, the USBP would not be as effective in detecting and apprehending illegal entrants and foot traffic would continue at its current level and probably increase. This illegal traffic would continue to damage unique and sensitive areas by causing accidental wildfires, creating trails and discarding trash within these areas.

4.5.2 Proposed Action Alternative

The Proposed Action Alternative would indirectly benefit unique and sensitive areas by reducing or eliminating illegal traffic, brush clearing, trampling of sensitive resources, and reduce the litter left behind and fires caused by illegal aliens.

4.6 AIR QUALITY

4.6.1 No Action Alternative

Implementation of the No Action Alternative would cause no direct impacts to air quality. Without the relay tower site, however, additional patrol activities would be required, which could exacerbate fugitive dust emissions. The magnitude of these effects would depend upon several variables including number of vehicle trips, climatic conditions, and soil types.

4.6.2 Proposed Action Alternative

Construction activities would be limited to a small, isolated area during installation of the relay tower/RVS equipment. The short duration of this activity (approximately 2 weeks), the type of equipment used, and the good dispersion patterns of the region, indicate that air emissions would not be created that would adversely affect air quality. Maintenance vehicles driving to and from the relay tower site would be the only emission sources required by the operation and maintenance of the relay tower. Maintenance is expected to be required no more than twice per year. Other companies that perform maintenance on the existing communication towers and water tank would also use this access road. Periodic maintenance of access roads would be required to ensure access to the relay tower site. These activities would be smaller than the initial construction and of shorter duration. As a result, it is not anticipated that the periodic road maintenance would adversely affect air quality.

4.7 WATER RESOURCES

4.7.1 No Action Alternative

Since construction of the relay tower site would not occur under this alternative, no effects to water resources would result. The No Action Alternative would have no impact, either beneficial or adverse, on water supplies, jurisdictional wetlands or Waters of the U.S.

4.7.2 Proposed Action Alternative

Short-term, negligible effects to surface water resources could occur during construction activities, primarily from erosion and sedimentation and the potential for accidental spills. Given the small construction area associated with the relay tower site, the long distance from intermittent or perennial streams and the short duration required for construction, no significant effects from stormwater runoff would be expected. A Storm Water Pollution Prevention Plan (SWPPP) is not required because the site is less than one acre in size.

Proper maintenance of construction equipment and best management practices during construction activities would minimize the possibility of accidental spills of fuels or lubricants that, if they occurred, could affect surface water quality. Operation and maintenance of the relay tower would have no effect on the project site's surface water.

Installation of the relay tower would have no direct or indirect impacts on Waters of the U.S., including wetlands, since none occur at the site.

4.8 NOISE

4.8.1 No Action Alternative

Under the implementation of the No Action Alternative, no impacts are expected.

4.8.2 Proposed Action Alternative

The project site is currently located in close proximity to a highway as well as other developed areas, thus, the impacts associated with the installation of the relay tower would be insignificant and temporary. Upon completion of the installation activities, the noise levels would return to ambient levels. Operation of the relay tower would not generate any noise.

4.9 CULTURAL RESOURCES

4.9.1 No Action Alternative

No direct impacts to cultural resources would be expected from the implementation of the No Action Alternative. However, due to the decrease in the effectiveness of the USBP efforts at alien interdiction resulting from the lower level of surveillance around

this area, indirect impacts to both known and unknown cultural resources could result as illegal foot traffic continues throughout the area unabated.

4.9.2 Proposed Action Alternative

Under the implementation of the Proposed Action Alternative no direct or indirect impacts to cultural resources are expected. The proposed Crawford Hill site is located within ½-mile of two historic districts potentially creating visual impacts to these historic properties. The INS is currently in the consultation process with the historic districts, the Nogales Main Street Program, the City of Nogales, and the Arizona SHPO concerning potential visual impacts. INS would ensure that all Section 106 compliance procedures are complete and concurrence is received before proceeding with any construction activities.

4.10 Environmental Justice

4.10.1 No Action Alterative

Under the No Action Alternative, no increases in surveillance capabilities would be conducted. As a result, no impacts would be anticipated under the No Action Alternative for environmental justice issues.

4.10.2 Proposed Action Alternative

No impacts to environmental justice issues are anticipated from the implementation of the Proposed Action Alternative. As a result, there would be no displacement of minority or low-income families, and therefore no impacts in regard to environmental justice.

4.11. Protection of Children

4.11.1 No Action Alternative

Under the No Action Alternative, no increases in surveillance capabilities from the establishment of the relay tower would occur. As a result, no issues regarding protection of children would occur. The current illegal traffic and its associated criminal activity would continue creating an unsafe environment for children.

4.11.2 Proposed Action Alternative

Implementation of the Proposed Action Alternative would not result in disproportionately high or adverse environmental health or safety impacts to children on either sides of the border. The Proposed Action Alternative would result in a reduction of illegal immigration, drug trafficking, and other crimes within the area further creating a safer living environment for the children on both sides of the border.

4.12 CUMULATIVE IMPACTS

This section of the EA addresses the potential cumulative impacts associated with the implementation of the alternatives outlined in Section 2.0 and other projects/programs that are planned for the region. The following paragraphs present a general discussion regarding cumulative effects that would be expected irrespective of the alternative selected.

The Council on Environmental Quality defines cumulative impacts as the incremental impact of multiple present and future actions with individually minor but collectively significant effects. Cumulative impacts can be concisely defined as the total effect of multiple land uses and developments, including their interrelationships, on the environment.

Past NEPA documents were reviewed to evaluate cumulative effects of the USBP operations/activities and infrastructure construction projects for the southwest border region. These included, but were not limited to, EAs from previous and current INS and JTF-6 projects, a Programmatic Environmental Impact Statement (USACE 1994), Environmental Assessment for Operation Skywatch for Tucson Sector, Arizona (INS 2002a), Environmental Assessment for Operation Desert Grip within the Tucson and Yuma Sector, Arizona (INS 2002b), and Supplemental Programmatic Environmental Impact Statement (INS 2001a). Within Santa Cruz County, JTF-6 and INS projects included establishment of bivouac sites, construction of firearms ranges, road improvements, checkpoint stations at the I-19 Palo Parado exit and in Sonoita, and a parking facility at the Sonoita USBP Station (USACE 1991; USACE 1993; INS 2001b; INS 2001c). An analysis of each component of the affected environment was completed from the existing documents in order to identify which would have cumulative impacts as

a result of the past and proposed activities. Other activities currently proposed by the USBP are discussed below.

Ephriam Hill, located west of Nogales is currently eroding and sloughing into Mexico. The USBP is currently planning reclamation of this hillside. The Nogales Station is also planning approximately two miles of road improvements and fencing and the installation of portable lights. The Nogales Station is also in the conceptual phase of acquiring space to accommodate 500 USBP agents. These projects are currently in the planning stage and potential impacts are unknown at this time. The Nogales Station is also planning to install 15 additional RVS systems east and west of the Nogales POE, which could impact up to 1 acre.

The Arizona Department of Transportation has several road improvement projects scheduled for Santa Cruz County in the next five years. No new road construction is planned near the project area (Knight 2002). As a result, acreage for impacts would tend to be low as the majority of the construction would be within existing ROW. The projects listed below are in the planning stage and potential impacts are unknown at this time (ADOT 2002).

- Country Club Road-Ruby Road. Design of Frontage roads (2006)
- Rio Rico-Ruby Road, East. Construction of Frontage Road (2006)
- Tubac State Park. Construction of Park Roads, Phase II (2003)
- Patagonia State Park. Design of park roads, Phase II (2005)
- San Rafael State Park. Construction of park roads (2003)
- Santa Cruz River Bridge #424. Replacement of Santa Cruz River Bridge on Route 82 (2003)
- State Route 82 at Milepost (MP) 15. Rockfall containment (2004)
- Junction of State Route 83 and State Route 82 to MP 45.9. Elimination and upgrade of guardrail (2003)
- Nogales Port of Entry (POE). Construction of Intelligent Transportation Systems (ITS)/ Commercial Vehicle Operations (CVO) system (2002).
- Mariposa road at U.S. Customs State Port. Construction of access road for State port (2002).

The City of Nogales is the designated gateway from and to Mexico on the CANAMEX Trade Corridor. The name "CANAMEX" is derived from the country names of Canada, America and Mexico where a western trade corridor of existing 1,700 miles of highway and interstate systems connect the three countries. The CANAMEX corridor is poised to become one of the most important north/south trade corridors in North America, as well as a catalyst for economic growth and development in the CANAMEX region.

The United States 1998 Transportation Efficiency Act for the 21st Century (TEA-21) has allocated $140 million per year for planning, engineering, design and construction of high priority corridors and border crossings for the next five years. The State governments of Arizona and Nevada have committed to obtain funds to construct a 4-lane bridge spanning the Colorado River and to upgrade US Highway 93 to a four-lane divided highway in anticipation of the CANAMEX Trade Corridor. The completion of these projects would create an uninterrupted north/south highway system down the spine of the CANAMEX Trade Corridor. This project is in the planning stage and potential impacts are unknown at this time.

4.12.1 No Action Alternative

The No Action Alternative would result in no additional direct effects to the area's resources. No threatened or endangered species or critical habitat would be affected, nor would there be any adverse effects on cultural resources sites or historic structures that are listed or potentially eligible for listing on the NRHP. Likewise, no additional direct impacts to air quality, water resources, soils, and socioeconomic conditions would occur under this alternative.

Past acres impacted by JTF-6 and INS activities within Santa Cruz County total approximately 70 acres. Most of this impact occurred in previously disturbed areas and, thus, should be considered a worst case scenario. Long term indirect cumulative effects have occurred and would continue to occur to the area’s natural habitats. However, these effects, both beneficial and adverse, are difficult, if not impossible, to quantify. Reductions in habitat have undoubtedly created inter- and intra-species competition for available food and shelter and, eventually, slight reductions in some wildlife populations. Given the rural nature of Santa Cruz County, 70 acres of altered habitat (most of which was previously disturbed) would be a negligible loss.

Positive cumulative benefits have resulted from INS activities as well. Additional knowledge regarding threatened or endangered species' locations, distribution, and life requisites has been obtained through surveys and monitoring efforts associated with INS construction projects. Erosion has been alleviated along some roads, and fences have precluded illegal foot and vehicular traffic through environmentally sensitive areas.

Positive cumulative benefits have resulted from INS activities to cultural resources as well. Increased surveillance, patrols, roads, and fences improved the USBP abilities to interdict UDAs early. As a result, there has been a reduction in both illegal vehicle and pedestrian traffic across the area. Such illegal traffic can harm cultural resources and be detrimental to the cultural landscape of the area. Archaeological surveys from past INS projects have increased our knowledge of the prehistory and history of the area. These surveys not only identify sites which now can be protected that would not normally be identified, but also provide informative data about site densities, settlement patterns, and site distribution across the area.

4.12.2 Proposed Action Alternative

Implementation of the Proposed Action Alternative would increase the amount of soil disturbance and construction activity required to complete this project by less than an acre (up to 2500 ft^2). Portions of the proposed relay tower site have been previously disturbed; thus the Proposed Action Alternative would not have significant cumulative impacts to either vegetation or wildlife.

The proposed relay tower would allow for USBP to more effectively monitor the border area and aid significantly in the swift apprehension or rescue of illegal entrants and smugglers. Positive long-term effects from implementing this project, such as habitat protection, archeological and historic resource protection, and protection of sensitive areas are expected with the Proposed Action Alternative.

The ability of the USBP to reach UDAs entering into remote and treacherous areas would safeguard not only these sensitive areas but also the UDAs themselves. Lives have been lost because persons were not adequately prepared for the harsh environment; the possibility of other deaths to occur would increase as people take greater chances. However, the detection and apprehension mission of USBP has

evolved to include the cooperation and coordination with other emergency services to rescue illegal entrants before they get into life-threatening situations. In fact, such rescues have become a daily occurrence along the border.

Indirect effects could occur to the vegetation beyond the project area by UDAs attempting to avoid the area being monitored by the current RVS system. With the Proposed Action Alternative, the enhanced RVS system would allow the USBP to re-allocate agents and equipment, which would lessen any indirect effects to vegetation and cultural resources from illegal traffic trying to avoid areas under surveillance by the RVS system. The magnitude of these effects cannot be determined at the present, since the routes selected by UDAs and smugglers are at their discretion and out of the control of the USBP.

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SECTION 5.0
ENVIRONMENTAL DESIGN MEASURES

5.0 ENVIRONMENTAL DESIGN MEASURES

This chapter describes environmental design measures that would be implemented as part of the Proposed Action Alternative to reduce or eliminate impacts from the relay tower installation. Due to the limited nature of construction activities associated with the Proposed Action Alternative, construction impacts are expected to be slight; therefore, mitigation measures are only described for those resources with potential for impacts.

5.1 WATER RESOURCES

Standard construction procedures would be implemented to minimize the potential for erosion and sedimentation during construction. All work would cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material.

5.2 AIR QUALITY/NOISE

All construction equipment shall be maintained and operated in a manner that produces the least amount of emissions and maintains the lowest practical noise levels. Standard noise attenuation equipment, such as mufflers, must be used on all construction equipment and vehicles and must be maintained in good operating condition, free from leaks and holes.

5.3 PROTECTED SPECIES

Palmer's agave, which is a potential food source for the lesser long-nosed bat, was observed adjacent to the proposed site of the relay tower. Any agave would be flagged prior to construction and avoided to the extent practicable.

5.4 CULTURAL RESOURCES

Two historic districts are located near the proposed relay tower site. INS is currently in consultation with the appropriate agencies regarding potential visual impacts to these

historic districts. All required Section 106 compliance procedures would be completed prior to initiating construction activities.

SECTION 6.0
PUBLIC INVOLVEMENT

6.0 PUBLIC INVOLVEMENT

6.1 AGENCY COORDINATION

This chapter discusses consultation and coordination that has occurred during preparation of the draft and final versions of this document. Formal and/or informal coordination has been conducted with the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (USEPA)
- Natural Resource Conservation Service (NRCS)
- Arizona State Historic Preservation Office (SHPO)
- Arizona Department of Transportation (ADOT)
- Arizona Department of Fish and Game (ADFG)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Department of Agriculture
- Native American Nations
- Bureau of Indian Affairs (BIA)

6.2 PUBLIC REVIEW

The draft EA was made available for public review for 15 days, and the Notice of Availability (NOA) was published in local newspapers (Exhibit 1). Proof of publication can be found in Appendix A. All correspondence sent or received during the preparation of this EA is included as Appendix A. No comments were received from public or private entities on the draft document.

Exhibit 1

NOTICE OF AVAILABILITY

ENVIRONMENTAL ASSESSMENT

For the Installation and Operation of a Relay Tower Equipped With Remote Video Surveillance Equipment at Crawford Hill, United States Border Patrol, Nogales Station Santa Cruz County, Arizona

The public is hereby notified of the availability of the Draft Environmental Assessment (EA) for the installation and operation of a relay tower equipped with remote video surveillance equipment along the U.S.-Mexico Border in Santa Cruz County, Arizona. The Draft EA will be available for review at the Nogales City/Santa Cruz County Public Library, 518 North Grand Avenue, Nogales, Arizona 85621; and the Tucson-Pima Public Library, 101 N. Stone, Tucson, Arizona 85701. Send written comments to Mr. Charles McGregor, U.S. Army Corps of Engineers, Environmental Resources Branch, P.O. Box 17300, Fort Worth, Texas 76102 or call Mr. McGregor at (817) 886-1708. Written comments will be received until October 22, 2002.

SECTION 7.0
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7.0 REFERENCES

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SECTION 8.0
LIST OF PREPARERS

8.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

Name	Agency/Organization	Discipline/Expertise	Experience	Role In Preparing EA
Kevin Feeney	INS, Headquarters	Environmental Planning	20 years, EIS/EAs for Federal projects	INS Environmental Office Program Manager
Charles Parsons	INS, Western Region	Geology	25 years of geotechnical and environmental related studies	Program Manager, Review
Patience Patterson, R.P.A.	USACE, Ft. Worth District	Archaeology	29 years Professional Archaeologist/Cultural Resource Manager	EA review and coordination
Charles McGregor	USACE, Ft. Worth District	Chemistry	5 years technical review of NEPA documents	Technical manager, EA review and coordination
Chris Ingram	Gulf South Research Corporation	Biology/Ecology	23 years NEPA and related studies	EA Review
Suna Adam Knaus	Gulf South Research Corporation	Biology/Ecology	14 years NEPA and related studies	EA Review
John Lindemuth	Gulf South Research Corporation	Archaeology/Project Archaeologist	11 years archaeological studies	EA Preparation, Cultural resources
David Alford	Gulf South Research Corporation	GIS/Graphics	3 years GIS analysis	GIS and Graphics
Mike Schulze	Gulf South Research Corporation	Environmental Studies	5 years Natural Resource and NEPA Studies	Project Manager, EA review and field surveys
Josh McEnany	Gulf South Research Corporation	Forestry and Wildlife	1 year of Natural Resources and NEPA Studies	EA preparation and review
Jim Malusa	Private Contractor	Botanical Surveys	22 years Botanical Research and Surveys	Field surveys
Howard Higgins, Ph.D.	TRC-Albuquerque	Archaeology/CRM	23 years of archaeological experience.	Principal Investigator
Victoria D. Vargas, M.A., R.P.A.	TRC-Albuquerque	Archaeology/CRM	12 years of archaeological experience	Cultural Resources Survey Report co-Author. Project Manager
Jeffrey Hathaway, M.A.	TRC-Albuquerque	Archaeology/CRM	12 years of archaeological experience	Archaeological Field Technician. Report co-author
Brian Rooney, B.A.	TRC-Albuquerque	Archaeology/CRM	10 years of archaeological experience.	Archaeological Field Technician
Stephen Yost	TRC-Albuquerque	Archaeology/CRM	7 years of archaeological experience	Project Manager. Report co-author

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APPENDIX A
CORRESPONDENCE

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Mr. James Garrison, State Historic Preservation Officer
ATTN: Joanne Medley
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Dear Mr. Garrison:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). We wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

(INS) proposes to install and operate one Remote Video Surveillance (RVS) system for the Nogales U.S. Border Patrol USBP) Station in Santa Cruz County, Arizona. The proposed RVS system is located on Crawford Hill within the City of Nogales (31°20'15" North, 110°57'10" West). This RVS system would consist of a single tower approximately 120-feet (ft) in height, RVS equipment, and microwave transmission equipment (see attached drawing). This proposed RVS site would be accessed via existing roads. The specific location of the proposed RVS system is shown in the attached Figure 2-1. Crawford Hill already has three other communication towers and two water tanks positioned within the site.

The RVS tower would also serve as a relay station for extant RVS systems and future RVS systems. The RVS systems are monitored at the Nogales Station and transmissions are often interrupted due to the local terrain. The Crawford Hill site would provide a clear line at the site between the extant RVS tower and the Nogales Station tower enhancing the monitoring-surveillance effectiveness of the current and proposed systems.

The INS intends to prepare an Environmental Assessment (EA) addressing the installation, operation and maintenance of the Crawford Hill RVS system. This EA is tiered from the

Supplemental Programmatic Environmental Impact Statement (SPEIS) for INS and Joint Task Force–Six (JTF-6) Activities. This SPEIS addressed INS and JTF-6 activities along the U.S.-Mexico border and included the installation of RVS systems.

Given the already impacted and disturbed nature of the placement area for the tower, we have determined, in accordance with 36 CFR Part 800.3(a)(1), there will be No potential to cause effects.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul W Hutton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Malcolm Bowekaty, Governor
Zuni Pueblo Tribal Council
P.O. Box 339
Zuni, NM 87327

Dear Governor Bowekaty:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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Given the already impacted and disturbed nature of the placement area for the tower, we have determined, in accordance with 36 CFR Part 800.3(a)(1), there will be No potential to cause effects and we have notified the Arizona State Historic Preservation Office to that effect.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Dallas Massey, Sr., Chairman
White Mountain Apache Tribal Council
P.O. Box 700
Whiteriver, AZ 85941

Dear Chairman Massey:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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Given the already impacted and disturbed nature of the placement area for the tower, we have determined, in accordance with 36 CFR Part 800.3(a)(1), there will be No potential to cause effects and we have notified the Arizona State Historic Preservation Office to that effect.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Edward Manuel, Chairman
ATTN: Mr. Peter Steere, Cultural Resources Manager
Tohono O'odham Nation
P.O. Box 837
Sells, AZ 85634

Dear Chairman Manuel:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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Supplemental Programmatic Environmental Impact Statement (SPEIS) for INS and Joint Task Force–Six (JTF-6) Activities. This SPEIS addressed INS and JTF-6 activities along the U.S.-Mexico border and included the installation of RVS systems. You will receive a copy of the Draft EA for your review and comment.

Given the already impacted and disturbed nature of the placement area for the tower, we have determined, in accordance with 36 CFR Part 800.3(a)(1), there will be No potential to cause effects and we have notified the Arizona State Historic Preservation Office to that effect.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Raymond Stanley, Jr., Chairman
San Carlos Tribal Council
P.O. Box 0
San Carlos, AZ 85550

Dear Chairman Stanley:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Benito F. Valencia, Chairman
Pascua Yaqui Tribe
7474 S. Camino de Oeste
Tucson, AZ 85746

Dear Chairman Valencia:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Donald R. Antone, Governor
Gila River Indian Community Council
P.O. Box 97
Sacaton, AZ 85247

Dear Governor Antone:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

September 27, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of a Remote Video Surveillance System (RVS) in the Tucson Sector, Nogales Station, Santa Cruz County, Arizona

Honorable Delia Carlyle, Chairperson
Ak Chin Indian Community Council
42507 W. Peters & Nall Road
Maricopa, AZ 85239

Dear Chairperson Carlyle:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz County, Arizona. In a letter to you, dated March 28,2002, we mentioned the initiation of a proposed project for 27 RVS units. The Crawford Hill RVS site is being singled out from that project with a separate Environmental Assessment (EA). In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

80306050 Correspondence

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 4, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Environmental Assessment (EA) for the Installation and Operation of Remote Video Surveillance (RVS) systems in the Tucson Sector of the U.S. Border Patrol (USBP)

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
ATTN: David Harlow, Field Supervisor
2321 West Royal Palm Road, Suite 103
Phoenix, AZ 85021-4915

Dear Mr. Harlow,

The U.S. Army Corps of Engineers (USACE), Fort Worth District, is acting on behave of the U.S. Immigration and Naturalization Service (INS) in preparing an Environmental Assessment (EA) for the installation and operation of Remote Video Surveillance (RVS) systems for the Tucson Sector of the U.S. Border Patrol (USBP). This EA will be prepared to address the installation, operation, and maintenance of 25 RVS systems sites near the cities of Naco and Douglas, Cochise County and Nogales, Santa Cruz County, Arizona. The proposed action also includes the upgrade of existing access roads and the construction of two new access roads.

We are currently in the process of gathering the most current information available regarding Federally listed species potentially occurring within Cochise and Santa Cruz Counties. The USACE respectfully requests that your agency provide a list of the protected species of these counties along with a description of the sensitive resources (e.g., rare or unique plant communities, threatened and endangered and candidate species, etc.) that you believe may be affected by the proposed INS activities.

We intend to provide your agency with a copy of the Draft EA once it is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA. Your prompt attention to this request would be greatly appreciated. If you have any questions, please feel free to contact Mr. Charles McGregor at (817) 886-1708.

Sincerely,

William Fickel, Jr
Planning, Environmental and
Regulatory Division

80306050 Correspondence

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 4, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Environmental Assessment (EA) for the Installation and Operation of Remote Video Surveillance (RVS) systems in the Tucson Sector of the U.S. Border Patrol (USBP)

Arizona Game and Fish Department
Habitat Branch – Project Evaluation Program
ATTN: Mr. Bob Broscheid, Project Evaluation Program Supervisor
2221 West Greenway Road
Phoenix, AZ 85023

Dear Mr. Broscheid,

The U.S. Army Corps of Engineers (USACE), Fort Worth District, is acting on behave of the U.S. Immigration and Naturalization Service (INS) in preparing an Environmental Assessment (EA) for the installation and operation of Remote Video Surveillance (RVS) systems for the Tucson Sector of the U.S. Border Patrol (USBP). This EA will be prepared to address the installation, operation, and maintenance of 25 RVS systems sites near the cities of Naco and Douglas, Cochise County and Nogales, Santa Cruz County, Arizona. The proposed action also includes the upgrade of existing access roads and the construction of two new access roads.

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Sincerely,

William Fickel, Jr
Planning, Environmental and
Regulatory Division

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

W+
PER-E

In Reply Refer to:

AESO/SE
2-21-02-I-017

March 12, 2002

Department of the Army
Fort Worth District, Corps of Engineers
Mr. William Fickel, Jr.
P. O. Box 17300
Fort Worth, Texas 76102-0300

RE: Installation and Operation of Remote Video Surveillance (RVS) Systems for the Tucson Sector of the U.S. Border Patrol (USBP).

Dear Mr. Fickel:

This letter responds to your March 4, 2002, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Cochise and Santa Cruz Counties). The enclosed lists may include candidate species as well. We hope the enclosed county lists of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-02-I-017.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

1)LISTED TOTAL= 21

NAME: **CANELO HILLS LADIES' TRESSES** *SPIRANTHES DELITESCENS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: SLENDER ERECT MEMBER OF THE ORCHID FAMILY (ORCHIDACEAE). FLOWER: STALK 50 CM TALL, MAY CONTAIN 40 WHITE FLOWERS SPIRALLY ARRANGED ON THE FLOWERING STALK.

ELEVATION RANGE: about 5000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: FINELY GRAINED, HIGHLY ORGANIC, SATURATED SOILS OF CIENEGAS

POTENTIAL HABITAT OCCURS IN SONORA, MEXICO, BUT NO POPULATIONS HAVE BEEN FOUND.

NAME: **COCHISE PINCUSHION CACTUS** *CORYPHANTHA ROBBINSORUM*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 51 FR 952, 1-9-1986

DESCRIPTION: A SMALL UNBRANCHED CACTUS WITH NO CENTRAL SPINES AND 11-17 WHITE RADIAL SPINES. THE BELL-SHAPED FLOWERS ARE BORNE ON THE ENDS OF TUBERCULES (Protrusions). FLOWERS: BELL SHAPED, PALE YELLOW-GREEN. FRUITS: ORANGE-RED TO RED

ELEVATION RANGE: >4200 FT.

COUNTIES: COCHISE AND SONORA, MEXICO

HABITAT: SEMIDESERT GRASSLAND WITH SMALL SHRUBS, AGAVE, OTHER CACTI, AND GRAMA GRASS.

GROWS ON GRAY LIMESTONE HILLS.

NAME: **HUACHUCA WATER UMBEL** *LILAEOPSIS SCHAFFNERIANA ssp RECURVA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY (UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10 FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION RANGE: 3500-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

AND IN ADJACENT SONORA, MEXICO, WEST OF THE CONTINENTAL DIVIDE. POPULATIONS ALSO ON FORT HUACHUCA MILITARY RESERVATION. CRITICAL HABITAT IN COCHISE AND SANTA CRUZ COUNTIES (63 FR 37441)

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

NAME: **OCELOT** *LEOPARDUS (=FELIS) PARDALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 47 FR 31670; 07-21-82

DESCRIPTION: MEDIUM-SIZED SPOTTED CAT WHOSE TAIL IS ABOUT 1/2 THE LENGTH OF HEAD AND BODY. YELLOWISH WITH BLACK STREAKS AND STRIPES RUNNING FROM FRONT TO BACK. TAIL IS SPOTTED AND FACE IS LESS HEAVILY STREAKED THAN THE BACK AND SIDES.

ELEVATION RANGE: <8000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: HUMID TROPICAL & SUB-TROPICAL FORESTS, SAVANNAHS, AND SEMI-ARID THORNSCRUB.

MAY PERSIST IN PARTLY-CLEARED FORESTS, SECOND-GROWTH WOODLAND, AND ABANDONED CULTIVATION REVERTED TO BRUSH. UNIVERSAL COMPONENT IS PRESENCE OF DENSE COVER. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED.

NAME: **BEAUTIFUL SHINER** *CYPRINELLA FORMOSA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 8-31-1984

DESCRIPTION: SMALL (2.5 INCHES) SHINY MINNOW AND VERY SIMILAR TO RED SHINER. MALES COLORFUL DURING BREEDING (YELLOW-ORANGE OR ORANGE ON CAUDAL AND LOWER FINS AND BLUISH BODY.

ELEVATION RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MEDIUM SIZED STREAMS AND PONDS WITH SAND, GRAVEL, AND ROCK BOTTOMS.

VIRTUALLY EXTIRPATED IN THE UNITED STATES, WITH THE EXCEPTION OF A FEW ISOLATED POPULATIONS ON NATIONAL WILDLIFE REFUGES AND IN MEXICO. SAME CRITICAL HABITAT AS YAQUI CHUB AND CATFISH (SEE 49 FR 34490, 08-31-1984).

NAME: **LOACH MINNOW** *TIAROGA COBITIS*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 39468, 10-28-1986; 59 FR 10898, 03-08-1994;

DESCRIPTION: SMALL (<3 INCHES LONG) SLENDER, ELONGATED FISH, OLIVE COLORED WITH DIRTY WHITE SPOTS AT THE BASE OF THE DORSAL AND CAUDAL FINS. BREEDING MALES VIVID RED ON MOUTH AND BASE OF FINS

ELEVATION RANGE: <8000 FT.

COUNTIES: PINAL, GRAHAM, GREENLEE, GILA, APACHE, NAVAJO, *YAVAPAI, *COCHISE, *PIMA

HABITAT: BENTHIC SPECIES OF SMALL TO LARGE PERENNIAL STREAMS WITH SWIFT SHALLOW WATER OVER COBBLE& GRAVEL. RECURRENT FLOODING AND NATURAL HYDROGRAPH IMPORTANT.

PRESENTLY FOUND IN ARAVAIPA CREEK, BLUE RIVER, CAMPBELL BLUE CREEK, SAN FRANCISCO RIVER, DRY BLUE CREEK, TULAROSA RIVER, EAST-WEST-AND MIDDLE FORKS OF THE GILA RIVER, EAGLE CREEK, EAST FORK, BLACK RIVER, AND THE MAINSTEM UPPER GILA RIVER. CRTITICAL HABITAT WAS REMOVED IN MARCH 1998; BUT RE-PROPOSED DEC 1999 AND FINALIZED APRIL 2000. SPECIES ALSO FOUND IN CATRON, GRANT, AND HIDALGO COUNTIES IN NEW MEXICO. *COUNTIES WITH CRITICAL HABITAT PRESENTLY CONTAIN NO KNOWN EXISTING POPULATIONS OF LOACH MINNOW.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

NAME: YAQUI TOPMINNOW *POECILIOPSIS OCCIDENTALIS SONORIENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES) TOPMINNOW GUPPY-LIKE, LIVE BEARING, LACKING DARK SPOTS. BREEDING MALES JET BLACK WITH YELLOW FINS.

ELEVATION RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MODERATE SIZED STREAMS, SPRINGS, & CIENEGAS GENERALLY IN SHALLOWS

NAME: BALD EAGLE *HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38"; WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

NAME: BROWN PELICAN *PELECANUS OCCIDENTALIS CALIFORNICUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35 FR 18320, 12-02-70

DESCRIPTION: LARGE DARK GRAY-BROWN WATER BIRD WITH A POUCH UNDERNEATH LONG BILL AND WEBBED FEET. ADULTS HAVE A WHITE HEAD AND NECK, BROWNISH BLACK BREAST, AND SILVER GRAY UPPER PARTS.

ELEVATION RANGE: VARIES FT.

COUNTIES: APACHE, COCHISE, COCONINO, GILA, GRAHAM, GREENLEE LA PAZ, MARICOPA, MOHAVE, NAVAJO, PIMA, PINAL, SANTA CRUZ, YAVAPAI, YUMA

HABITAT: COASTAL LAND AND ISLANDS; ARIZONA LAKES AND RIVERS

SUBSPECIES IS FOUND ON PACIFIC COAST AND IS ENDANGERED DUE TO PESTICIDES. IT IS AN UNCOMMON TRANSIENT IN ARIZONA ON MANY ARIZONA LAKES AND RIVERS. INDIVIDUALS WANDER UP FROM MEXICO IN SUMMER AND FALL. NO BREEDING RECORDS IN ARIZONA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

NAME: **SOUTHWESTERN WILLOW FLYCATCHER** *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT WAS SET ASIDE BY THE 10TH CIRCUIT COURT OF APPEALS (5/17/01).

NAME: **WHOOPING CRANE** *GRUS AMERICANA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967; 43 FR 20938, 05-15-78

DESCRIPTION: TALLEST AMERICAN BIRD (UP TO 5 FEET) SNOWY WHITE, LONG NECK AND LEGS, BLACK WING TIPS, RED CROWN, AND BLACK WEDGE SHAPED PATCH OF FETHERS BEHIND ITS EYE.

ELEVATION RANGE: 4500 FT.

COUNTIES: COCHISE

HABITAT: MARSHES, PRAIRIES, RIVER BOTTOMS

BIRDS IN THE ROCKY MOUNTAIN POPULATION ARE OCCASIONAL VISITORS IN ARIZONA DURING MIGRATION. USUALLY NEAR WILCOX PLAYA.

NAME: **SONORA TIGER SALAMANDER** *AMBYSTOMA TIGRINUM STEBBINSI*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: 2.6 TO 4.9" SNOUT-VENT LENGTH WITH LIGHT-COLORED BANDS ON A DARK BACKGROUND. AQUATIC LARVAE ARE UNIFORM DARK COLOR WITH PLUME-LIKE GILLS AND TAIN FINS.

ELEVATION RANGE: 4000-6300 FT.

COUNTIES: SANTA CRUZ, COCHISE

HABITAT: STOCK TANKS AND IMPOUNDED CIENEGAS IN SAN RAFAEL VALLEY, HUACHUCA MOUNTAINS

ALSO OCCURS IN THE FOOTHILLS OF THE EAST SLOPE OF THE PATAGONIA AND HUACHUCA MOUNTAINS. POPULATIONS ALSO ON FORT HUACHUCA.

3) CANDIDATE TOTAL= 5

NAME: LEMMON FLEABANE *ERIGERON LEMMONII*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: A PROSTRATE PERENNIAL IN THE SUNFLOWER FAMILY. STEMS AND LEAVES ARE DENSELY HAIRY. FLOWERS LOOK LIKE SMALL DELICATE DAISIES, WITH WHITE TO LIGHT PURPLE OUTER PETALS AND YELLOW INNER PETALS.

ELEVATION RANGE: 1500-6000 FT.

COUNTIES: COCHISE

HABITAT: GROWS IN DENSE CLUMPS IN CREVICES, LEDGES, AND BOULDERS IN CANYON BOTTOMS IN PINE-OAK WOODLAND

ONE SITE ON FORT HUACHUCA MILITARY RESERVATION

NAME: BLACK-TAILED PRAIRIE DOG *CYNOMYS LUDOVICIANUS*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: SMALL, STOUT GROUND SQUIRRELS. TOTAL LENGTH OF ADULT 14-17 INCHES; ABOUT 1-3 LBS. INDIVIDUALS IN MIXED COLORS OF BROWN, BLACK, GRAY, AND WHITE. BLACK-TIPPED TAIL. A SOCIAL ANIMAL LIVING IN AGGREGATIONS CALLED TOWNS, COLONIES, OR VILLAGES.

ELEVATION RANGE: APPROX. 5 FT.

COUNTIES: COCHISE, GRAHAM, AND GREENLEE

HABITAT: IN BURROWS IN PLAINS AND GRASSLAND HABITATS.

SPECIES IS CURRENTLY EXTIRPATED FROM THE STATE, BUT CONSERVATION EFFORTS ARE UNDERWAY. TWELVE-MONTH PETITION FINDING PUBLISHED 2/4/00. EXTIRPATED FROM AZ AROUND 1938. REINTRODUCTION ATTEMPTED IN 1972, BUT FAILED.

NAME: GILA CHUB *GILA INTERMEDIA*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: DEEP COMPRESSED BODY, FLAT HEAD. DARK OLIVE-GRAY COLOR ABOVE, SILVER SIDES. ENDEMIC TO GILA RIVER BASIN.

ELEVATION RANGE: 2000 - 3500 FT.

COUNTIES: SANTA CRUZ, GILA, GREENLEE, PIMA, COCHISE, GRAHAM, YAVAPAI

HABITAT: POOLS, SPRINGS, CIENEGAS, AND STREAMS

MULTIPLE PRIVATE LANDOWERS, INCLUDING THE NATURE CONSERVANCY, THE AUDUBON SOCIETY, AND OTHERS. ALSO FT. HUACHUCA. SPECIES ALSO FOUND IN SONORA, MEXICO.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

CONSERVATION AGREEMENT TOTAL= 1

NAME: **RAMSEY CANYON LEOPARD FROG** *RANA SUBAQUAVOCALIS*

STATUS: CONSERVATION AGREEMENT CRITICAL HAB No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: BROWN OR GREEN FROG, 2.5 TO 4 INCHES LONG; SPOTS ROUNDED WITH LIGHT BORDERS; DORSOLATERAL FOLDS ARE INTERRUPTED POSTERIORLY AND DEFLECTED MEDIALLY; YELLOWISH PIGMENTATION ON THE GROIN WHICH MAY EXTEND INTO THE POSTERIOR VENTER

ELEVATION RANGE: 5,000 FT FT.

COUNTIES: COCHISE

HABITAT: ARTIFICIAL PONDS IN TINKER, BROWN, AND RAMSEY CANYONS ON THE EAST SLOPE OF THE HUACHUCA MOUNTAINS.

CONSERVATION AGREEMENT BETWEEN THE SERVICE, ARIZONA GAME AND FISH DEPARTMENT, THE NATURE CONSERVANCY, BUREAU OF LAND MANAGEMENT, CORONADO NATIONAL FOREST, THE US ARMY INTELLIGENCE CENTER AND FORT HUACHUCA, AND A PRIVATE LANDOWNER WAS SIGNED IN AUGUST 1996. SPECIES ALSO OCCURS ON FORT HUACHUCA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: **SANTA CRUZ**

10/11/2001

1)LISTED

TOTAL= 16

NAME: **CANELO HILLS LADIES' TRESSES** *SPIRANTHES DELITESCENS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: SLENDER ERECT MEMBER OF THE ORCHID FAMILY (ORCHIDACEAE). FLOWER: STALK 50 CM TALL, MAY CONTAIN 40 WHITE FLOWERS SPIRALLY ARRANGED ON THE FLOWERING STALK.

ELEVATION RANGE: about 5000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: FINELY GRAINED, HIGHLY ORGANIC, SATURATED SOILS OF CIENEGAS

POTENTIAL HABITAT OCCURS IN SONORA, MEXICO, BUT NO POPULATIONS HAVE BEEN FOUND.

NAME: **HUACHUCA WATER UMBEL** *LILAEOPSIS SCHAFFNERIANA ssp RECURVA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY (UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10 FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION RANGE: 3500-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

AND IN ADJACENT SONORA, MEXICO, WEST OF THE CONTINENTAL DIVIDE. POPULATIONS ALSO ON FORT HUACHUCA MILITARY RESERVATION. CRITICAL HABITAT IN COCHISE AND SANTA CRUZ COUNTIES (63 FR 37441)

NAME: **PIMA PINEAPPLE CACTUS** *CORYPHANTHA SCHEERI ROBUSTISPINA*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 57 FR 14374, 04-20-1992

DESCRIPTION: HEMISHPERICAL STEMS 4-7 INCHES TALL 3-4 INCHES DIAMETER. CENTRAL SPINE 1 INCH LONG STRAW COLORED HOOKED SURROUNDED BY 6-15 RADIAL SPINES. FLOWER: YELLOW SALMON OR RARELY WHITE NARROW FLORAL TUBE.

ELEVATION RANGE: 2300-5000 FT.

COUNTIES: PIMA, SANTA CRUZ

HABITAT: SONORAN DESERTSCRUB OR SEMI-DESERT GRASSLAND COMMUNITIES

OCCURS IN ALLUVIAL VALLEYS OR ON HILLSIDES IN ROCKY TO SANDY OR SILTY SOILS. THIS SPECIE CAN BE CONFUSED WITH JUVENILLE BARREL CACTUS (FEROCACTUS). HOWEVER, THE SPINES OF THE LATER ARE FLATTENED, IN CONTRAST WITH THE ROUND CROSS-SECTION OF THE CORYPHANTHA SPINES. ALSO THE AREOLES (SPINE CLUSTERS) OF CORYPHANTHA ARE ON TUBERCULES (BUMPS), WHILE THE AREOLES OF FEROCACTUS ARE ON RIDGES (RIBS). 80-90% OF INDIVIDUALS ON STATE AND PRIVATE LAND.

NAME: **DESERT PUPFISH** *CYPRINODON MACULARIUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 10842, 03-31-1986

DESCRIPTION: SMALL (2 INCHES) SMOOTHLY ROUNDED BODY SHAPE WITH NARROW VERTICAL BARS ON THE SIDES. BREEDING MALES BLUE ON HEAD AND SIDES WITH YELLOW ON TAIL. FEMALES & JUVENILES TAN TO OLIVE COLORED BACK AND SILVERY SIDES.

ELEVATION RANGE: <5000 FT.

COUNTIES: LA PAZ, PIMA, GRAHAM, MARICOPA, PINAL, YAVAPAI, SANTA CRUZ

HABITAT: SHALLOW SPRINGS, SMALL STREAMS, AND MARSHES. TOLERATES SALINE & WARM WATER

CRITICAL HABITAT INCLUDES QUITOBAQUITO SPRING, PIMA COUNTY, PORTIONS OF SAN FELIPE CREEK, CARRIZO WASH, AND FISH CREEK WASH, IMPERIAL COUNTY, CALIFORNIA. TWO SUBSPECIES ARE RECOGNIZED: DESERT PUPFISH (C. m. macularis) AND QUITOBAQUITO PUPFISH (C. m. eremus).

NAME: **GILA TOPMINNOW** *POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

SPECIES HISTORICALLY OCCURRED IN BACKWATERS OF LARGE RIVERS BUT IS CURRENTLY ISOLATED TO SMALL STREAMS AND SPRINGS

NAME: **SONORA CHUB** *GILA DITAENIA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 16042, 04-30-1986

DESCRIPTION: MINNOW (<5 INCHES LONG) MODERATELY CHUBBY, DARK-COLORED FISH WITH TWO PROMINENT BLACK LATERAL BANDS ON THE SIDES AND A DARK OVAL SPOT AT THE BASE OF THE TAIL. BREEDING MALES HAVE RED LOWER FINS AND A ORANGE BELLY

ELEVATION RANGE: 3900 FT.

COUNTIES: SANTA CRUZ

HABITAT: PERENNIAL & INTERMITTENT SMALL TO MODERATE STREAMS WITH BOULDERS & CLIFFS

CRITICAL HABITAT IN SYCAMORE CREEK (SANTA CRUZ COUNTY). YANK SPRING TO INTERNATIONAL BORDER, 2.0 Km OF PENASCO CREEK, AND LOWER HALF OF UNNAMED STREAM ENTERING SYSCAMORE CREEK ABOUT 2.4 Km DOWNSTREAM FROM YANKS SPRING. SPECIES EXTENDS INTO MEXICO (ALTAR & MAGDELENA RIVERS).

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: **SANTA CRUZ**

10/11/2001

NAME: **MEXICAN SPOTTED OWL** *STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91; 66 FR 8530, 2/1/01

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDERSA PINE/GAMBEL OAK TYPE, IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERED. CRITICAL HABITAT WAS REMOVED IN 1998 BUT RE-PROPOSED IN JULY 2000 AND FINALIZED IN FEB 2001 FOR APACHE, COCHISE, COCONINO, GRAHAM, MOHAVE, PIMA COUNTIES; ALSO IN NEW MEXICO, UTAH, AND COLORADO.

NAME: **NORTHERN APLOMADO FALCON** *FALCO FEMORALIS SEPTENTRIONALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 51 FR 6686, 01-25-86

DESCRIPTION: RUFOUS UNDERPARTS, GRAY BACK, LONG BANDED TAIL, AND A DISTINCT BLACK AND WHITE FACIAL PATTERN. SMALLER THAN PEREGRINE LARGER THAN KESTREL. BREEDS BETWEEN MARCH- JUNE

ELEVATION RANGE: 3500-9000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: GRASSLAND AND SAVANNAH

SPECIES FORMERLY NESTED IN SOUTHWESTERN US. NOW OCCURS AS AN ACCIDENTAL. GOOD HABITAT HAS LOW GROUND COVER AND MESQUITE OR YUCCA FOR NESTING PLATFORMS. CONTINUED USE OF PESTICIDES IN MEXICO ENDANGERS THIS SPECIES. NO RECENT CONFIRMED REPORTS FOR ARIZONA.

NAME: **SOUTHWESTERN WILLOW FLYCATCHER** *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT WAS SET ASIDE BY THE 10TH CIRCUIT COURT OF APPEALS (5/17/01).

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: SANTA CRUZ

10/11/2001

2) PROPOSED

TOTAL= 1

NAME: **CHIRICAHUA LEOPARD FROG** *RANA CHIRICAHUENSIS*

STATUS: PROPOSED CRITICAL HAB No RECOVERY PLAN: No CFR: 65 FR 37343, 6-14-2000

DESCRIPTION: CREAM COLORED TUBERCULES (spots) ON A DARK BACKGROUND ON THE REAR OF THE THIGH, DORSOLATERAL FOLDS THAT ARE INTERRUPTED AND DEFLECTED MEDIALLY, AND A CALL GIVEN OUT OF WATER DISTINGUISH THIS SPOTTED FROG FROM OTHER LEOPRD

ELEVATION RANGE: 3300-8900 FT.

COUNTIES: SANTA CRUZ, APACHE, GILA, PIMA, COCHISE, GREENLEE, GRAHAM, YAVAPAI, COCONINO, NAVAJO

HABITAT: STREAMS, RIVERS, BACKWATERS, PONDS, AND STOCK TANKS THAT ARE MOSTLY FREE FROM INTRODUCED FISH, CRAYFISH, AND BULLFROGS

REQUIRE PERMANENT OR NEARLY PERMANENT WATER SOURCES. POPULATIONS NORTH OF THE GILA RIVER MAY BE CLOSELY-RELATED, BUT DISTINCT, UNDESCRIBED SPECIES.

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM

GOVERNOR
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JOE MELTON, YUMA
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

PER-E

March 21, 2002

Mr. William Fickel, Jr.
Army Corps of Engineers
Fort Worth District
PO Box 17300
Fort Worth, TX 76102-0300

Re: Special Status Species Information for **INS Installation and Operation of Remote Video Surveillance Equipment.**

Dear Mr. Fickel:

The Arizona Game and Fish Department (Department) has reviewed your request, dated March 4, 2002, regarding special status species information associated with the above-referenced project areas. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachments have been documented as occurring in the project areas. Included are county-wide lists as well as a list of species within a 10-mile buffer of the cities of Douglas and Naco. In addition, these projects do not occur in the vicinity of any proposed or designated Critical Habitats (ten mile buffer of the cities).

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information, state-wide and county distribution lists, and abstracts for some special status species are also available on our web site at: http://www.azgfd.com/frames/fishwild/hdms_site/Home.htm.

Sincerely,

Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Joan Scott, Habitat Program Manager, Region V

AGFD #3-07-02(20)

Special Status Species within 10 Miles of Naco

Arizona Game and Fish Department, Heritage Data Management System

March 21, 2002

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
ALLIUM RHIZOMATUM	REDFLOWER ONION		S	S		SR
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C	S		WC	
ECHINOCEREUS PECTINATUS VAR PECTINATUS	TEXAS RAINBOW CACTUS					SR
GENTIANELLA WISLIZENI	WISLIZENI GENTIAN	SC	S			SR
HEDEOMA DENTATUM	MOCK-PENNYROYAL		S			
HEXALECTRIS WARNOCKII	TEXAS PURPLE SPIKE	SC	S	S		HS
LITHOSPERMUM VIRIDE	GREEN PUCCOON			S		

No Critical Habitats in project area. AGFD #3-8-02(03), Remote Video Surveillance, INS.

Special Status Species within 10 Miles of Douglas

Arizona Game and Fish Department, Heritage Data Management System
March 21, 2002

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C	S		WC	
ECHINOCEREUS PECTINATUS VAR PECTINATUS	TEXAS RAINBOW CACTUS					SR
IBERVILLEA TENUISECTA	TEXAS GLOBE BERRY			S		
PHRYNOSOMA CORNUTUM	TEXAS HORNED LIZARD	SC		S		
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT	S		WC	
SISTRURUS CATENATUS EDWARDSII	DESERT MASSASAUGA		S		WC	

No Critical Habitats in project area. AGFD #3-8-02(03), Remote Video Surveillance, INS.

Special Status Species by County for Arizona

Arizona Game and Fish Department, Heritage Data Management System

January 15, 2002

COUNTYNAME : APACHE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
CATHARUS FUSCESCENS	VEERY					WC			BIRD
CERYLE ALCYON	BELTED KINGFISHER					WC		4	BIRD
CHARADRIUS MONTANUS	MOUNTAIN PLOVER	PT		S				4	BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
DOLICHONYX ORYZIVORUS	BOBOLINK					WC			BIRD
DUMETELLA CAROLINENSIS	GRAY CATBIRD					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
PICA HUDSONIA	BLACK-BILLED MAGPIE					WC			BIRD
PINICOLA ENUCLEATOR	PINE GROSBEAK					WC			BIRD
SETOPHAGA RUTICILLA	AMERICAN REDSTART					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CATOSTOMUS SP 3	LITTLE COLORADO SUCKER	SC		S	S	WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
LEPIDOMEDA VITTATA	LITTLE COLORADO SPINEDACE	LT	Y	S		WC			FISH
ONCORHYNCHUS APACHE	APACHE (ARIZONA) TROUT	LT		S		WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
TIAROGA COBITIS	LOACH MINNOW	LT	Y	S		WC			FISH
ANODONTA CALIFORNIENSIS	CALIFORNIA FLOATER	SC		S					INVERTEBRATE
DAIHINIBAENETES ARIZONENSIS	ARIZONA GIANT SAND TREADER CRICKET	SC		S	S				INVERTEBRATE
PSEPHENUS MONTANUS	WHITE MOUNTAINS WATER PENNY BEETLE	SC		S					INVERTEBRATE
PYRGULOPSIS TRIVIALIS	THREE FORKS SPRINGSNAIL	C		S	S				INVERTEBRATE
EUDERMA MACULATUM	SPOTTED BAT	SC			S	WC			MAMMAL
MICROTUS MEXICANUS NAVAHO	NAVAJO MEXICAN VOLE	SC		S		WC		4	MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
PEROGNATHUS FLAVUS GOODPASTERI	SPRINGERVILLE POCKET MOUSE	SC		S					MAMMAL
SOREX PALUSTRIS	WATER SHREW					WC			MAMMAL
SPERMOPHILUS TRIDECEMLINEATUS MONTICOLA	WHITE MOUNTAINS GROUND SQUIRREL			S					MAMMAL
ZAPUS HUDSONIUS LUTEUS	NEW MEXICAN JUMPING MOUSE	SC		S		WC			MAMMAL

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : APACHE									
ALLIUM GOODDINGII	GOODDING ONION	SC		S			HS	3	PLANT
ASTRAGALUS NUTRIOSENSIS	NUTRIOSO MILK-VETCH	SC					SR		PLANT
ASTRAGALUS XIPHOIDES	GLADIATOR MILK VETCH	SC					SR		PLANT
CALYPSO BULBOSA	WESTERN FAIRY SLIPPER						SR		PLANT
CAREX SPECUICOLA	NAVAJO SEDGE	LT	Y				HS	3	PLANT
CASTILLEJA MOGOLLONICA	WHITE MOUNTAINS PAINTBRUSH	SC		S			SR		PLANT
CHRYSOTHAMNUS MOLESTUS	TUSAYAN RABBITBRUSH	SC		S					PLANT
CYPRIPEDIUM PARVIFLORUM VAR PUBESCENS	YELLOW LADY'S-SLIPPER						HS		PLANT
DRABA STANDLEYI	STANDLEY WHITLOW-GRASS	SC							PLANT
EREMOCRINUM ALBOMARGINATUM	UTAH SOLITAIRE LILY			S			SR		PLANT
ERIGERON RHIZOMATUS	RHIZOME FLEABANE	LT						2	PLANT
GOODYERA REPENS	LESSER RATTLESNAKE PLANTAIN						SR		PLANT
IPOMOEA PLUMMERAE VAR CUNEIFOLIA	HUACHUCA MORNING GLORY			S					PLANT
MALAXIS PORPHYREA	PURPLE ADDER'S MOUTH						SR		PLANT
PLATANTHERA HYPERBOREA	BOREAL BOG ORCHID						SR		PLANT
PLATANTHERA PURPURASCENS	SLENDER BOG ORCHID						SR		PLANT
PUCCINELLIA PARISHII	PARISH ALKALI GRASS	SC					HS	4	PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SALIX ARIZONICA	ARIZONA WILLOW			S			HS		PLANT
SCLEROCACTUS PARVIFLORUS	GLEN CANYON CACTUS						SR		PLANT
SENECIO QUAERENS	GILA GROUNDSEL	SC		S			SR		PLANT
STREPTOPUS AMPLEXIFOLIUS	WHITE MANDARIN TWISTED STALK						SR		PLANT
TRIFOLIUM NEUROPHYLLUM	WHITE MOUNTAINS CLOVER	SC		S					PLANT
ZIGADENUS VIRESCENS	GREEN DEATH CAMAS						SR		PLANT
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : COCHISE									
AMBYSTOMA TIGRINUM STEBBINSI	SONORAN TIGER SALAMANDER	LE				WC			AMPHIBIAN
ELEUTHERODACTYLUS AUGUSTI CACTORUM	WESTERN BARKING FROG			S		WC			AMPHIBIAN
RANA BLAIRI	PLAINS LEOPARD FROG					WC			AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA SUBAQUAVOCALIS	RAMSEY CANYON LEOPARD FROG	SC		S		WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
AMAZILIA BERYLLINA	BERYLLINE HUMMINGBIRD			S					BIRD
AMAZILIA VIOLICEPS	VIOLET-CROWNED HUMMINGBIRD			S		WC			BIRD
AMMODRAMUS BAIRDII	BAIRD'S SPARROW	SC				WC			BIRD
ANTHUS SPRAGUEII	SPRAGUE'S PIPIT					WC			BIRD
ASTURINA NITIDA MAXIMA	NORTHERN GRAY HAWK	SC		S	S	WC			BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD

COUNTYNAME : COCHISE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK					WC			BIRD
EMPIDONAX FULVIFRONS PYGMAEUS	NORTHERN BUFF-BREASTED FLYCATCHER	SC				WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
EUPTILOTIS NEOXENUS	EARED TROGON			S					BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
ICTINIA MISSISSIPPIENSIS	MISSISSIPPI KITE					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
TROGON ELEGANS	ELEGANT TROGON					WC			BIRD
TYRANNUS CRASSIROSTRIS	THICK-BILLED KINGBIRD					WC			BIRD
TYRANNUS MELANCHOLICUS	TROPICAL KINGBIRD					WC			BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CAMPOSTOMA ORNATUM	MEXICAN STONEROLLER	SC		S					FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CYPRINELLA FORMOSA	BEAUTIFUL SHINER	LT	Y			WC			FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
GILA PURPUREA	YAQUI CHUB	LE	Y			WC			FISH
ICTALURUS PRICEI	YAQUI CATFISH	LT	Y			WC			FISH
POECILIOPSIS OCCIDENTALIS SONORIENSIS	YAQUI TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
TIAROGA COBITIS	LOACH MINNOW	LT	Y	S		WC			FISH
AGATHYMUS ARYXNA	ARIZONA GIANT SKIPPER			S					INVERTEBRATE
AGATHYMUS EVANSI	HUACHUCA GIANT-SKIPPER			S					INVERTEBRATE
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
ERYNNIS SCUDDERI	SCUDDER'S DUSKY WING			S					INVERTEBRATE
NEOPHASIA TERLOOTII	CHIRICAHUA PINE WHITE			S					INVERTEBRATE
PSEPHENUS ARIZONENSIS	ARIZONA WATER PENNY BEETLE	SC		S					INVERTEBRAT
PYRGULOPSIS BERNARDINA	SAN BERNARDINO SPRINGSNAIL	SC		S	S				INVERTEBRAT
PYRGULOPSIS THOMPSONI	HUACHUCA SPRINGSNAIL	C		S	S				INVERTEBRAT
STYGOBROMUS ARIZONENSIS	ARIZONA CAVE AMPHIPOD	SC		S					INVERTEBRAT
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MYOTIS CILIOLABRUM	WESTERN SMALL-FOOTED MYOTIS	SC			S				MAMMAL
MYOTIS THYSANODES	FRINGED MYOTIS	SC			S				MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS VOLANS	LONG-LEGGED MYOTIS	SC			S				MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
NYCTINOMOPS MACROTIS	BIG FREE-TAILED BAT	SC			S				MAMMAL
PANTHERA ONCA	JAGUAR	LE	N	S		WC			MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL

COUNTYNAME : COCHISE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
SCIURUS NAYARITENSIS CHIRICAHUAE	CHIRICAHUA FOX SQUIRREL	SC		S					MAMMAL
SIGMODON OCHROGNATHUS	YELLOW-NOSED COTTON RAT	SC							MAMMAL
SOREX ARIZONAE	ARIZONA SHREW	SC		S		WC			MAMMAL
ALLIUM PLUMMERAE	PLUMMER ONION						SR		PLANT
ALLIUM RHIZOMATUM	REDFLOWER ONION			S			SR		PLANT
AMMOCODON CHENOPODIOIDES	GOOSEFOOT MOONPOD				S				PLANT
APACHERIA CHIRICAHUENSIS	CHIRICAHUA ROCK FLOWER						SR		PLANT
ARABIS TRICORNUTA	CHIRICAHUA ROCK CRESS			S					PLANT
ASCLEPIAS LEMMONII	LEMMON MILKWEED			S					PLANT
ASPLENIUM DALHOUSIAE	DALHOUSE SPLEENWORT				S				PLANT
ASTRAGALUS COBRENSIS VAR MAGUIREI	COPPERMINE MILK-VETCH	SC		S			SR		PLANT
ASTRAGALUS HYPOXYLUS	HUACHUCA MILK-VETCH	SC		S	S		SR		PLANT
CAREX CHIHUAHUENSIS	A SEDGE			S					PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
CASTILLEJA NERVATA	TRANS-PECOS INDIAN-PAINTBRUSH			S					PLANT
CLEOME MULTICAULIS	PLAYA SPIDER PLANT	SC					SR		PLANT
CORYPHANTHA ROBBINSORUM	COCHISE PINCUSHION CACTUS	LT					HS		PLANT
CORYPHANTHA SCHEERI VAR VALIDA	SLENDER NEEDLE CORYCACTUS						SR		PLANT
CORYPHANTHA STROBILIFORMIS	COB CORYCACTUS						SR		PLANT
COURSETIA GLABELLA		SC		S					PLANT
DRABA STANDLEYI	STANDLEY WHITLOW-GRASS	SC							PLANT
ECHINOCEREUS LEDINGII	PINALENO HEDGEHOG CACTUS						SR		PLANT
ECHINOCEREUS PECTINATUS VAR PECTINATUS	TEXAS RAINBOW CACTUS						SR		PLANT
ECHINOMASTUS ERECTOCENTRUS VAR ERECTOCENTRUS	NEEDLE-SPINED PINEAPPLE CACTUS	SC		S			SR		PLANT
EPITHELANTHA MICROMERIS	BUTTON CACTUS						SR		PLANT
ERIGERON ARISOLIUS				S					PLANT
ERIGERON KUSCHEI	CHIRICAHUA FLEABANE	SC		S			SR		PLANT
ERIGERON LEMMONII	LEMMON FLEABANE	C					HS		PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
EUPHORBIA MACROPUS	WOODLAND SPURGE	SC					SR		PLANT
GENTIANELLA WISLIZENI	WISLIZENI GENTIAN	SC		S			SR		PLANT
GRAPTOPETALUM BARTRAMII	BARTRAM STONECROP	SC		S	S		SR		PLANT
HEDEOMA COSTATUM	CHIRICAHUA MOCK PENNYROYAL			S					PLANT
HEDEOMA DENTATUM	MOCK-PENNYROYAL			S					PLANT
HETEROTHECA RUTTERI	HUACHUCA GOLDEN ASTER	SC		S	S				PLANT
HEUCHERA GLOMERULATA	ARIZONA ALUM ROOT			S					PLANT
HEXALECTRIS SPICATA	CRESTED CORAL ROOT						SR		PLANT
HEXALECTRIS WARNOCKII	TEXAS PURPLE SPIKE	SC		S	S		HS		PLANT
HIERACIUM PRINGLEI	PRINGLE HAWKWEED	SC		S					PLANT
HIERACIUM RUSBYI	RUSBY HAWKWEED			S					PLANT
IBERVILLEA TENUISECTA	TEXAS GLOBE BERRY				S				PLANT
IPOMOEA PLUMMERAE VAR CUNEIFOLIA	HUACHUCA MORNING GLORY			S					PLANT
IPOMOEA THURBERI	THURBER'S MORNING-GLORY			S					PLANT

COUNTYNAME : COCHISE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
LAENNECIA ERIOPHYLLA	WOOLLY FLEABANE			S					PLANT
LILAEOPSIS SCHAFFNERIANA VAR RECURVA	HUACHUCA WATER UMBEL	LE	Y				HS		PLANT
LILIUM PARRYI	LEMMON LILY	SC		S			SR		PLANT
LOBELIA FENESTRALIS	LEAFY LOBELIA						SR		PLANT
LUPINUS HUACHUCANUS	HUACHUCA MOUNTAIN LUPINE			S					PLANT
LUPINUS LEMMONII	LEMMON'S LUPINE			S					PLANT
MALAXIS CORYMBOSA	MADREAN ADDERS MOUTH						SR		PLANT
MALAXIS PORPHYREA	PURPLE ADDER'S MOUTH						SR		PLANT
MALAXIS TENUIS	SLENDER ADDERS MOUTH						SR		PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
MAMMILLARIA WRIGHTII VAR WILCOXII	WILCOX FISHHOOK CACTUS						SR		PLANT
METASTELMA MEXICANUM	WIGGINS MILKWEED VINE	SC		S					PLANT
MUHLENBERGIA DUBIOIDES	BOX CANYON MUHLY			S					PLANT
PASPALUM VIRLETII	VIRLET PASPALUM			S					PLANT
PECTIS IMBERBIS	BEARDLESS CHINCH WEED	SC		S					PLANT
PENIOCEREUS GREGGII VAR GREGGII	NIGHT-BLOOMING CEREUS	SC					SR		PLANT
PENSTEMON DISCOLOR	CATALINA BEARDTONGUE			S			HS		PLANT
PENSTEMON RAMOSUS	BRANCHING PENSTEMON			S					PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PERITYLE COCHISENSIS	CHIRICAHUA ROCK DAISY			S			SR		PLANT
PHYSALIS LATIPHYSA	BROAD-LEAF GROUND-CHERRY			S					PLANT
PLATANTHERA LIMOSA	THURBER'S BOG ORCHID						SR		PLANT
POLEMONIUM PAUCIFLORUM SSP HINCKLEYI	HINCKLEY'S LADDER	SC		S					PLANT
PSILACTIS GENTRYI	MEXICAN BARE-RAY-ASTER			S					PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SALVIA AMISSA	ARAVAIPA SAGE	SC		S	S				PLANT
SAMOLUS VAGANS	CHIRICAHUA MOUNTAIN BROOKWEED			S					PLANT
SCHIEDEELLA PARASITICA	FALLEN LADIES'-TRESSES						SR		PLANT
SENECIO CARLOMASONII	SEEMANN GROUNDSEL			S					PLANT
SENECIO HUACHUCANUS	HUACHUCA GROUNDSEL			S			HS		PLANT
SENECIO NEOMEXICANUS VAR TOUMEYI	TOUMEY GROUNDSEL			S					PLANT
SISYRINCHIUM CERNUUM	NODDING BLUE-EYED GRASS			S					PLANT
SPIRANTHES DELITESCENS	MADREAN LADIES'-TRESSES	LE					HS		PLANT
STELLARIA PORSILDII	PORSILD'S STARWORT			S					PLANT
STENORRHYNCHOS MICHUACANUS	MICHOACAN LADIES'-TRESSES						SR		PLANT
TALINUM MARGINATUM	TEPIC FLAME FLOWER	SC		S			SR		PLANT
TEPHROSIA THURBERI	THURBER HOARY PEA			S					PLANT
TRAGIA LACINIATA	SONORAN NOSEBURN			S					PLANT
VAUQUELINIA CALIFORNICA SSP PAUCIFLORA	LIMESTONE ARIZONA ROSEWOOD	SC					SR		PLANT
VIOLA UMBRATICOLA	SHADE VIOLET			S					PLANT
ZIGADENUS VIRESCENS	GREEN DEATH CAMAS						SR		PLANT
CNEMIDOPHORUS BURTI STICTOGRAMMUS	GIANT SPOTTED WHIPTAIL	SC		S	S				REPTILE
CROTALUS WILLARDI OBSCURUS	NEW MEXICO RIDGENOSE RATTLESNAKE	LT	Y						REPTILE
CROTALUS WILLARDI WILLARDI	ARIZONA RIDGENOSE RATTLESNAKE			S		WC			REPTILE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : COCHISE									
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
PHRYNOSOMA CORNUTUM	TEXAS HORNED LIZARD	SC			S				REPTILE
SISTRURUS CATENATUS EDWARDSII	DESERT MASSASAUGA			S		WC			REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : COCONINO									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA BLAIRI	PLAINS LEOPARD FROG					WC			AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEO REGALIS	FERRUGINOUS HAWK	SC				WC		3	BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
CERYLE ALCYON	BELTED KINGFISHER					WC		4	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
EUPTILOTIS NEOXENUS	EARED TROGON			S					BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
PINICOLA ENUCLEATOR	PINE GROSBEAK					WC			BIRD
PLEGADIS CHIHI	WHITE-FACED IBIS	SC			S				BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CATOSTOMUS LATIPINNIS	FLANNELMOUTH SUCKER	SC		S					FISH
CATOSTOMUS SP 3	LITTLE COLORADO SUCKER	SC		S	S	WC			FISH
GILA CYPHA	HUMPBACK CHUB	LE	Y			WC		2	FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
LEPIDOMEDA VITTATA	LITTLE COLORADO SPINEDACE	LT	Y	S		WC			FISH
ONCORHYNCHUS APACHE	APACHE (ARIZONA) TROUT	LT		S		WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
ANODONTA CALIFORNIENSIS	CALIFORNIA FLOATER	SC		S					INVERTEBRATE
ARCHEOLARCA CAVICOLA	GRAND CANYON CAVE PSEUDOSCORPION	SC							INVERTEBRATE
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
DISCUS SHIMEKII COCKERELLI	COCKERELL'S STRIATE DISC (SNAIL)	SC			S				INVERTEBRATE
METRICHIA VOLADA	PAGE SPRING MICRO CADDISFLY	SC							INVERTEBRATE
OXYLOMA HAYDENI HAYDENI	NIOBRARA AMBERSNAIL			S	S				INVERTEBRATE
OXYLOMA HAYDENI KANABENSIS	KANAB AMBERSNAIL	LE		S	S			4	INVERTEBRATE
STENOPELMATUS NAVAJO	NAVAJO JERUSALEM CRICKET	SC		S	S				INVERTEBRATE

COUNTYNAME : COCONINO

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
DIPODOMYS MICROPS LEUCOTIS	HOUSEROCK VALLEY CHISEL-TOOTHED KANGAROO RAT	SC			S	WC		4	MAMMAL
EUDERMA MACULATUM	SPOTTED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
MICROTUS MEXICANUS HUALPAIENSIS	HUALAPAI MEXICAN VOLE	LE				WC			MAMMAL
MICROTUS MEXICANUS NAVAHO	NAVAJO MEXICAN VOLE	SC		S		WC		4	MAMMAL
MYOTIS CILIOLABRUM	WESTERN SMALL-FOOTED MYOTIS	SC			S				MAMMAL
MYOTIS EVOTIS	LONG-EARED MYOTIS	SC			S				MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
MYOTIS THYSANODES	FRINGED MYOTIS	SC			S				MAMMAL
MYOTIS VOLANS	LONG-LEGGED MYOTIS	SC			S				MAMMAL
NYCTINOMOPS MACROTIS	BIG FREE-TAILED BAT	SC			S				MAMMAL
PEROGNATHUS AMPLUS CINERIS	WUPATKI ARIZONA POCKET MOUSE	SC		S					MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ALLIUM BIGELOVII	BIGELOW ONION						SR		PLANT
AMSONIA PEEBLESII	PEEBLES BLUE STAR				S			4	PLANT
AQUILEGIA DESERTORUM	MOGOLLON COLUMBINE						SR		PLANT
ARGEMONE ARIZONICA	ROARING SPRINGS PRICKLY-POPPY	SC							PLANT
ASCLEPIAS WELSHII	WELSH'S MILKWEED	LT	Y				HS	4	PLANT
ASTRAGALUS AMPULLARIUS	GUMBO MILK-VETCH	SC		S					PLANT
ASTRAGALUS CREMNOPHYLAX VAR CREMNOPHYLAX	SENTRY MILK-VETCH	LE					HS		PLANT
ASTRAGALUS CREMNOPHYLAX VAR HEVRONII	MARBLE CANYON MILK-VETCH			S				3	PLANT
ASTRAGALUS CREMNOPHYLAX VAR MYRIORRHAPHIS	CLIFF MILK-VETCH	SC		S	S		SR		PLANT
ASTRAGALUS RUSBYI	RUSBY'S MILK-VETCH			S					PLANT
ASTRAGALUS XIPHOIDES	GLADIATOR MILK VETCH	SC					SR		PLANT
CALYPSO BULBOSA	WESTERN FAIRY SLIPPER						SR		PLANT
CAMISSONIA EXILIS	SLENDER EVENING-PRIMROSE	SC			S		SR		PLANT
CAMISSONIA SPECUICOLA SSP HESPERIA	GRAND CANYON EVENING-PRIMROSE	SC							PLANT
CAREX SPECUICOLA	NAVAJO SEDGE	LT	Y				HS	3	PLANT
CASTILLEJA KAIBABENSIS	KAIBAB PAINTBRUSH			S					PLANT
CHRYSOTHAMNUS MOLESTUS	TUSAYAN RABBITBRUSH	SC		S					PLANT
CIMICIFUGA ARIZONICA	ARIZONA BUGBANE	SC		S			HS		PLANT
CIRSIUM PARRYI SSP MOGOLLONICUM	MOGOLLON THISTLE	SC		S			SR		PLANT
CORYPHANTHA MISSOURIENSIS	MISSOURI CORYCACTUS						SR		PLANT
CYMOPTERUS MEGACEPHALUS	CAMERON WATER-PARSLEY	SC		S					PLANT
ERIGERON SAXATILIS	ROCK FLEABANE			S					PLANT
ERIOGONUM ERICIFOLIUM VAR ERICIFOLIUM	HEATHLEAF WILD-BUCKWHEAT			S					PLANT
ERIOGONUM RIPLEYI	RIPLEY WILD-BUCKWHEAT	SC		S			SR		PLANT
ERRAZURIZIA ROTUNDATA	ROUNDLEAF ERRAZURIZIA				S		SR	4	PLANT
FLAVERIA MCDOUGALLII	GRAND CANYON FLAVERIA						SR		PLANT
GENTIANOPSIS BARBELLATA	BEARDED GENTIAN			S					PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : COCONINO									
HEDEOMA DIFFUSUM	FLAGSTAFF PENNYROYAL			S			SR		PLANT
HEUCHERA EASTWOODIAE	EASTWOOD ALUM ROOT			S					PLANT
LESQUERELLA KAIBABENSIS	KAIBAB BLADDERPOD	SC		S					PLANT
MALAXIS PORPHYREA	PURPLE ADDER'S MOUTH						SR		PLANT
OPUNTIA BASILARIS VAR AUREA	YELLOW BEAVERTAIL						SR		PLANT
OPUNTIA NICHOLII	NAVAJO BRIDGE CACTUS						SR		PLANT
PEDIOCACTUS BRADYI	BRADY PINCUSHION CACTUS	LE					HS	2	PLANT
PEDIOCACTUS PARADINEI	KAIBAB PINCUSHION CACTUS	SC		S	S		HS		PLANT
PEDIOCACTUS PEEBLESIANUS VAR FICKEISENIAE	FICKEISEN PLAINS CACTUS	C		S	S		HS	3	PLANT
PEDIOCACTUS SILERI	SILER PINCUSHION CACTUS	LT					HS		PLANT
PEDIOCACTUS SIMPSONII	SIMPSON PLAINS CACTUS						SR		PLANT
PENSTEMON CLUTEI	SUNSET CRATER BEARDTONGUE	SC		S			SR		PLANT
PENSTEMON NUDIFLORUS	FLAGSTAFF BEARDTONGUE			S					PLANT
PHACELIA SERRATA	CINDER PHACELIA	SC							PLANT
PHACELIA WELSHII	WELSH PHACELIA	SC						4	PLANT
PINUS ARISTATA	ROCKY MOUNTAIN BRISTLECONE PINE						SR		PLANT
PLATANTHERA ZOTHECINA	ALCOVE BOG-ORCHID	SC						3	PLANT
PRIMULA SPECUICOLA	GRAND CANYON PRIMROSE						SR		PLANT
PSOROTHAMNUS THOMPSONAE VAR WHITINGII	WHITING INDIGO BUSH	SC							PLANT
PUCCINELLIA PARISHII	PARISH ALKALI GRASS	SC					HS	4	PLANT
ROSA STELLATA SSP ABYSSA	GRAND CANYON ROSE	SC		S	S		SR		PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SCLEROCACTUS PARVIFLORUS	GLEN CANYON CACTUS						SR		PLANT
SCLEROCACTUS SILERI	HOUSE ROCK FISHHOOK CACTUS						SR		PLANT
SENECIO FRANCISCANUS	SAN FRANCISCO PEAKS GROUNDSEL	LT	Y				HS		PLANT
SILENE RECTIRAMEA	GRAND CANYON CATCHFLY	SC							PLANT
TALINUM VALIDULUM	TUSAYAN FLAME FLOWER	SC					SR		PLANT
THELYPTERIS PUBERULA VAR SONORENSIS	ARAVAIPA WOOD FERN				S				PLANT
ZIGADENUS VIRESCENS	GREEN DEATH CAMAS						SR		PLANT
CROTALUS VIRIDIS ABYSSUS	GRAND CANYON RATTLESNAKE			S					REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : GILA									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
ELEUTHERODACTYLUS AUGUSTI CACTORUM	WESTERN BARKING FROG			S		WC			AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
ASTURINA NITIDA MAXIMA	NORTHERN GRAY HAWK	SC		S	S	WC			BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
CERYLE ALCYON	BELTED KINGFISHER					WC		4	BIRD

COUNTYNAME : GILA

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
DOLICHONYX ORYZIVORUS	BOBOLINK					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
EUPTILOTIS NEOXENUS	EARED TROGON			S					BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
AGATHON ARIZONICUS				S					INVERTEBRAT
ANODONTA CALIFORNIENSIS	CALIFORNIA FLOATER	SC		S					INVERTEBRAT
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRAT
PYRGULOPSIS SIMPLEX	FOSSIL SPRINGSNAIL	SC		S	S				INVERTEBRAT
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
MYOTIS THYSANODES	FRINGED MYOTIS	SC			S				MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
AGAVE ARIZONICA	ARIZONA AGAVE	LE		S			HS		PLANT
AGAVE DELAMATERI	TONTO BASIN AGAVE	SC		S			HS		PLANT
AGAVE MURPHEYI	HOHOKAM AGAVE	SC		S	S		HS		PLANT
AGAVE TOUMEYANA VAR BELLA	TOUMEY AGAVE						SR		PLANT
CAREX CHIHUAHUENSIS	A SEDGE			S					PLANT
CIMICIFUGA ARIZONICA	ARIZONA BUGBANE	SC		S			HS		PLANT
ECHINOCEREUS TRIGLOCHIDIATUS VAR ARIZONICUS	ARIZONA HEDGEHOG CACTUS	LE		S			HS		PLANT
ERIGERON ANCHANA	MOGOLLON FLEABANE	SC		S					PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
FREMONTODENDRON CALIFORNICUM	FLANNEL BUSH				S		SR		PLANT
HEUCHERA EASTWOODIAE	EASTWOOD ALUM ROOT			S					PLANT
HEUCHERA GLOMERULATA	ARIZONA ALUM ROOT			S					PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : GILA									
OSMORHIZA BRACHYPODA	SWEET CICELY			S					PLANT
PENSTEMON NUDIFLORUS	FLAGSTAFF BEARDTONGUE			S					PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PERITYLE GILENSIS VAR SALENSIS	GILA ROCK DAISY			S					PLANT
PERITYLE SAXICOLA	FISH CREEK ROCK DAISY	SC		S					PLANT
PHLOX AMABILIS	ARIZONA PHLOX			S					PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SALVIA AMISSA	ARAVAIPA SAGE	SC		S	S				PLANT
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
XANTUSIA VIGILIS ARIZONAE	ARIZONA NIGHT LIZARD			S					REPTILE
COUNTYNAME : GRAHAM									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
MEDA FULGIDA	SPIKEDACE	LT	Y	S		WC			FISH
ONCORHYNCHUS APACHE	APACHE (ARIZONA) TROUT	LT		S		WC			FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
TIAROGA COBITIS	LOACH MINNOW	LT	Y	S		WC			FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
ANODONTA CALIFORNIENSIS	CALIFORNIA FLOATER	SC		S					INVERTEBRATE
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
EUMORSEA PINALENO	PINALENO MONKEY GRASSHOPPER	SC		S					INVERTEBRATE
LIMENITIS ARCHIPPUS OBSOLETA	OBSOLETE VICEROY BUTTERFLY			S					INVERTEBRATE
OREOHELIX GRAHAMENSIS	PINALENO MOUNTAINSNAIL			S					INVERTEBRATE
PYRGULOPSIS ARIZONAE	BYLAS SPRINGSNAIL	SC		S	S				INVERTEBRATE

COUNTYNAME : GRAHAM

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
SONORELLA CHRISTENSENI	CLARK PEAK TALUSSNAIL	SC		S					INVERTEBRATE
SONORELLA GRAHAMENSIS	PINALENO TALUSSNAIL	SC		S					INVERTEBRATE
SONORELLA IMITATOR	MIMIC TALUSSNAIL			S					INVERTEBRATE
SONORELLA MACROPHALLUS	WET CANYON TALUSSNAIL	SC		S					INVERTEBRATE
TRYONIA GILAE	GILA TRYONIA	SC		S					INVERTEBRATE
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MICROTUS LONGICAUDUS LEUCOPHAEUS	WHITE-BELLIED LONG-TAILED VOLE			S					MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
SIGMODON OCHROGNATHUS	YELLOW-NOSED COTTON RAT	SC							MAMMAL
TAMIASCIURUS HUDSONICUS GRAHAMENSIS	MT GRAHAM RED SQUIRREL	LE	Y			WC			MAMMAL
THOMOMYS BOTTAE MEARNSI	MEARNS' SOUTHERN POCKET GOPHER	SC							MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
CAREX CHIHUAHUENSIS	A SEDGE			S					PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
ECHINOCEREUS LEDINGII	PINALENO HEDGEHOG CACTUS						SR		PLANT
ERIGERON HELIOGRAPHIS	PINALENOS FLEABANE	SC							PLANT
ERIGERON PISCATICUS	FISH CREEK FLEABANE	SC		S	S		SR		PLANT
ERIOGONUM APACHENSE	APACHE WILD-BUCKWHEAT	SC					SR		PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
EUPATORIUM BIGELOVII	BIGELOW THOROUGHWORT			S					PLANT
HACKELIA URSINA	CHIHUAHUAN STICKSEED			S					PLANT
HEUCHERA GLOMERULATA	ARIZONA ALUM ROOT			S					PLANT
HIERACIUM RUSBYI	RUSBY HAWKWEED			S					PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
MAMMILLARIA WRIGHTII VAR WILCOXII	WILCOX FISHHOOK CACTUS						SR		PLANT
PENSTEMON DISCOLOR	CATALINA BEARDTONGUE			S			HS		PLANT
PENSTEMON RAMOSUS	BRANCHING PENSTEMON			S					PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PHYSALIS LATIPHYSA	BROAD-LEAF GROUND-CHERRY			S					PLANT
PLATANTHERA HYPERBOREA	BOREAL BOG ORCHID						SR		PLANT
PLATANTHERA PURPURASCENS	SLENDER BOG ORCHID						SR		PLANT
POLEMONIUM FLAVUM	PINALENO JACOBS LADDER			S					PLANT
POTENTILLA ALBIFLORA	WHITE-FLOWERED CINQUEFOIL			S					PLANT
PURSHIA SUBINTEGRA	ARIZONA CLIFF ROSE	LE					HS		PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SALVIA AMISSA	ARAVAIPA SAGE	SC		S	S				PLANT
SCHIEDEELLA PARASITICA	FALLEN LADIES'-TRESSES						SR		PLANT
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : GRAHAM									
PHRYNOSOMA CORNUTUM	TEXAS HORNED LIZARD	SC			S				REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : GREENLEE									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
EUPTILOTIS NEOXENUS	EARED TROGON			S					BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
MEDA FULGIDA	SPIKEDACE	LT	Y	S		WC			FISH
ONCORHYNCHUS APACHE	APACHE (ARIZONA) TROUT	LT		S		WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
TIAROGA COBITIS	LOACH MINNOW	LT	Y	S		WC			FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
PSEPHENUS MONTANUS	WHITE MOUNTAINS WATER PENNY BEETLE	SC		S					INVERTEBRATE
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
ZAPUS HUDSONIUS LUTEUS	NEW MEXICAN JUMPING MOUSE	SC		S		WC			MAMMAL
ALLIUM BIGELOVII	BIGELOW ONION						SR		PLANT
ALLIUM GOODDINGII	GOODDING ONION	SC		S			HS	3	PLANT
CALYPSO BULBOSA	WESTERN FAIRY SLIPPER						SR		PLANT
COELOGLOSSUM VIRIDE VAR VIRESCENS	AMERICAN FROG ORCHID						SR		PLANT
CONIOSELINUM MEXICANUM	MEXICAN HEMLOCK PARSLEY	SC		S					PLANT
CYPRIPEDIUM PARVIFLORUM VAR PUBESCENS	YELLOW LADY'S-SLIPPER						HS		PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
GENTIANELLA WISLIZENI	WISLIZENI GENTIAN	SC		S			SR		PLANT
GOODYERA REPENS	LESSER RATTLESNAKE PLANTAIN						SR		PLANT
HACKELIA URSINA	CHIHUAHUAN STICKSEED			S					PLANT
HEUCHERA GLOMERULATA	ARIZONA ALUM ROOT			S					PLANT
LUPINUS LEMMONII	LEMMON'S LUPINE			S					PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : GREENLEE									
PENSTEMON LINARIOIDES SSP MAGUIREI	MAGUIRE'S PENSTEMON						SR		PLANT
PENSTEMON RAMOSUS	BRANCHING PENSTEMON			S					PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PLATANTHERA HYPERBOREA	BOREAL BOG ORCHID						SR		PLANT
PLATANTHERA PURPURASCENS	SLENDER BOG ORCHID						SR		PLANT
RUMEX ORTHONEURUS	BLUMER'S DOCK	SC		S			HS		PLANT
SCHIEDEELLA PARASITICA	FALLEN LADIES'-TRESSES						SR		PLANT
SENECIO QUAERENS	GILA GROUNDSEL	SC		S			SR		PLANT
TRIFOLIUM NEUROPHYLLUM	WHITE MOUNTAINS CLOVER	SC		S					PLANT
ZIGADENUS VIRESCENS	GREEN DEATH CAMAS						SR		PLANT
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : LA PAZ									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ARDEA ALBA	GREAT EGRET					WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
LATERALLUS JAMAICENSIS COTURNICULUS	CALIFORNIA BLACK RAIL	SC		S		WC			BIRD
PLEGADIS CHIHI	WHITE-FACED IBIS	SC			S				BIRD
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE				WC			BIRD
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA ELEGANS	BONYTAIL	LE	Y			WC		1	FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
OPUNTIA ECHINOCARPA	STRAW-TOP CHOLLA						SR		PLANT
PHOLISMA ARENARIUM	SCALY SANDPLANT				S		HS		PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
HELODERMA SUSPECTUM CINCTUM	BANDED GILA MONSTER	SC			P				REPTILE
UMA SCOPARIA	MOJAVE FRINGE-TOED LIZARD					WC			REPTILE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : MARICOPA									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD					WC			AMPHIBIAN
PTERNOHYLA FODIENS	LOWLAND BURROWING TREEFROG					WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ARDEA ALBA	GREAT EGRET					WC			BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
CHARADRIUS ALEXANDRINUS NIVOSUS	WESTERN SNOWY PLOVER			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK					WC			BIRD
EGRETTA THULA	SNOWY EGRET					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
GLAUCIDIUM BRASILIANUM CACTORUM	CACTUS FERRUGINOUS PYGMY-OWL	LE	Y			WC			BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
ICTINIA MISSISSIPPIENSIS	MISSISSIPPI KITE					WC			BIRD
IXOBRYCHUS EXILIS HESPERIS	WESTERN LEAST BITTERN	SC				WC			BIRD
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE				WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA ELEGANS	BONYTAIL	LE	Y			WC		1	FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
LIMENITIS ARCHIPPUS OBSOLETA	OBSOLETE VICEROY BUTTERFLY			S					INVERTEBRATE
SONORELLA ALLYNSMITHI	SQUAW PEAK TALUSSNAIL	SC		S					INVERTEBRATE
ANTILOCAPRA AMERICANA SONORIENSIS	SONORAN PRONGHORN	LE		S		WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
AGAVE ARIZONICA	ARIZONA AGAVE	LE		S			HS		PLANT
AGAVE DELAMATERI	TONTO BASIN AGAVE	SC		S			HS		PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : MARICOPA									
AGAVE MURPHEYI	HOHOKAM AGAVE	SC		S	S		HS		PLANT
AGAVE TOUMEYANA VAR BELLA	TOUMEY AGAVE						SR		PLANT
ALLIUM BIGELOVII	BIGELOW ONION						SR		PLANT
BERBERIS HARRISONIANA	KOFA BARBERRY				S				PLANT
ERIGERON PISCATICUS	FISH CREEK FLEABANE	SC		S	S		SR		PLANT
ERIOGONUM RIPLEYI	RIPLEY WILD-BUCKWHEAT	SC		S			SR		PLANT
FREMONTODENDRON CALIFORNICUM	FLANNEL BUSH				S		SR		PLANT
HEUCHERA EASTWOODIAE	EASTWOOD ALUM ROOT			S					PLANT
LOTUS ALAMOSANUS	ALAMOS DEER VETCH			S					PLANT
MABRYA ACERIFOLIA	MAPLELEAF FALSE SNAPDRAGON			S					PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
OPUNTIA ECHINOCARPA	STRAW-TOP CHOLLA						SR		PLANT
OPUNTIA PHAEACANTHA VAR FLAVISPINA							SR		PLANT
PERITYLE SAXICOLA	FISH CREEK ROCK DAISY	SC		S					PLANT
PURSHIA SUBINTEGRA	ARIZONA CLIFF ROSE	LE					HS		PLANT
TUMAMOCA MACDOUGALII	TUMAMOC GLOBEBERRY			S	S		SR		PLANT
VAUQUELINIA CALIFORNICA SSP SONORENSIS	A ARIZONA ROSEWOOD				S				PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
CNEMIDOPHORUS BURTI XANTHONOTUS	REDBACK WHIPTAIL	SC		S	S				REPTILE
EUMECES GILBERTI ARIZONENSIS	ARIZONA SKINK	SC		S	S	WC			REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
PHYLLORHYNCHUS BROWNI LUCIDUS	MARICOPA LEAFNOSE SNAKE			S					REPTILE
SAUROMALUS OBESUS TUMIDUS	ARIZONA CHUCKWALLA	SC			S				REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
XANTUSIA VIGILIS ARIZONAE	ARIZONA NIGHT LIZARD			S					REPTILE
COUNTYNAME : MOHAVE									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA ONCA	RELICT LEOPARD FROG			S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
AECHMOPHORUS CLARKII	CLARK'S GREBE					WC		4	BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE				WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH

COUNTYNAME : MOHAVE

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CATOSTOMUS LATIPINNIS	FLANNELMOUTH SUCKER	SC		S					FISH
GILA CYPHA	HUMPBACK CHUB	LE	Y			WC		2	FISH
GILA ELEGANS	BONYTAIL	LE	Y			WC		1	FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
GILA SEMINUDA	VIRGIN RIVER CHUB	LE	Y	S		WC			FISH
LEPIDOMEDA MOLLISPINIS MOLLISPINIS	VIRGIN SPINEDACE	SC				WC			FISH
PLAGOPTERUS ARGENTISSIMUS	WOUNDFIN	LE	Y			WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
PYRGULOPSIS BACCHUS	GRAND WASH SPRINGSNAIL	SC		S	S				INVERTEBRATE
PYRGULOPSIS CONICA	KINGMAN SPRINGSNAIL	SC		S	S				INVERTEBRATE
PYRGULOPSIS DESERTA	DESERT SPRINGSNAIL			S	S				INVERTEBRATE
EUDERMA MACULATUM	SPOTTED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MICROTUS MEXICANUS HUALPAIENSIS	HUALAPAI MEXICAN VOLE	LE				WC			MAMMAL
MYOTIS CILIOLABRUM	WESTERN SMALL-FOOTED MYOTIS	SC			S				MAMMAL
MYOTIS THYSANODES	FRINGED MYOTIS	SC			S				MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS VOLANS	LONG-LEGGED MYOTIS	SC			S				MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
NYCTINOMOPS MACROTIS	BIG FREE-TAILED BAT	SC			S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ALLIUM BIGELOVII	BIGELOW ONION						SR		PLANT
ARCTOMECON CALIFORNICA	LAS VEGAS BEARPOPPY	SC					SR		PLANT
ASTRAGALUS AMPULLARIUS	GUMBO MILK-VETCH	SC		S					PLANT
ASTRAGALUS GEYERI VAR TRIQUETRUS	BEAVER DAM MILK-VETCH	SC							PLANT
ASTRAGALUS HOLMGRENIORUM	HOLMGREN MILK-VETCH	E			S		HS		PLANT
ASTRAGALUS NEWBERRYI VAR AQUARII					S				PLANT
ASTRAGALUS TOANUS VAR SCIDULUS	A TOANA MILKVETCH				S				PLANT
CAMISSONIA BREVIPES	GOLDEN SUNCUP	SC							PLANT
CAMISSONIA EXILIS	SLENDER EVENING-PRIMROSE	SC			S		SR		PLANT
CAMISSONIA SPECUICOLA SSP HESPERIA	GRAND CANYON EVENING-PRIMROSE	SC							PLANT
CIRSIUM VIRGINENSIS	VIRGIN THISTLE	SC					SR		PLANT
CORYPHANTHA MISSOURIENSIS	MISSOURI CORYCACTUS						SR		PLANT
CYCLADENIA HUMILIS VAR JONESII	JONES' CYCLADENIA	LT					HS		PLANT
ENCELIOPSIS ARGOPHYLLA	SILVERLEAF SUNRAY				S				PLANT
ERIOGONUM MORTONIANUM	MORTON WILD-BUCKWHEAT	SC		S			SR		PLANT
ERIOGONUM THOMPSONAE VAR ATWOODII	ATWOOD WILD-BUCKWHEAT	SC		S			SR		PLANT
ERIOGONUM VISCIDULUM	STICKY BUCKWHEAT	SC							PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : MOHAVE									
FLAVERIA MCDOUGALLII	GRAND CANYON FLAVERIA						SR		PLANT
FREMONTODENDRON CALIFORNICUM	FLANNEL BUSH				S		SR		PLANT
LUPINUS LATIFOLIUS SSP LEUCANTHUS	BROADLEAF LUPINE			S					PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
OPUNTIA BASILARIS VAR AUREA	YELLOW BEAVERTAIL						SR		PLANT
OPUNTIA ECHINOCARPA	STRAW-TOP CHOLLA						SR		PLANT
OPUNTIA NICHOLII	NAVAJO BRIDGE CACTUS						SR		PLANT
PEDIOCACTUS PEEBLESIANUS VAR FICKEISENIAE	FICKEISEN PLAINS CACTUS	C		S	S		HS	3	PLANT
PEDIOCACTUS SILERI	SILER PINCUSHION CACTUS	LT					HS		PLANT
PEDIOMELUM CASTOREUM	BEAVER DAM SCURF PEA	SC							PLANT
PEDIOMELUM EPIPSILUM	KANE SCURF-PEA	SC							PLANT
PENSTEMON ALBOMARGINATUS	WHITE-MARGINED PENSTEMON	SC			S		SR		PLANT
PENSTEMON BICOLOR SSP ROSEUS	CERBAT BEARDTONGUE	SC					SR		PLANT
PENSTEMON DISTANS	MT. TRUMBULL BEARDTONGUE	SC		S	S		SR		PLANT
PENSTEMON PETIOLATUS	SHEEP RANGE BEARDTONGUE				S				PLANT
PHACELIA PARISHII	PARISH'S PHACELIA				S				PLANT
POLYGALA RUSBYI	HUALAPAI MILKWORT			S					PLANT
PURSHIA SUBINTEGRA	ARIZONA CLIFF ROSE	LE					HS		PLANT
ROSA STELLATA SSP ABYSSA	GRAND CANYON ROSE	SC		S	S		SR		PLANT
SCLEROCACTUS PARVIFLORUS	GLEN CANYON CACTUS						SR		PLANT
SELINOCARPUS NEVADENSIS	DESERT MOONPOD				S				PLANT
TOWNSENDIA SMITHII	BLACKROCK GROUND DAISY				S				PLANT
TRICARDIA WATSONII	THREE HEARTS				S				PLANT
YUCCA WHIPPLEI	OUR LORDS CANDLE						SR		PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
CROTALUS VIRIDIS ABYSSUS	GRAND CANYON RATTLESNAKE			S					REPTILE
GOPHERUS AGASSIZII (MOHAVE POPULATION)	MOHAVE DESERT TORTOISE	LT	Y			WC			REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
HELODERMA SUSPECTUM CINCTUM	BANDED GILA MONSTER	SC			P				REPTILE
LAMPROPELTIS PYROMELANA INFRALABIALIS	UTAH MOUNTAIN KINGSNAKE			S					REPTILE
COUNTYNAME : NAVAJO									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEO REGALIS	FERRUGINOUS HAWK	SC				WC		3	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
CATOSTOMUS SP 3	LITTLE COLORADO SUCKER	SC		S	S	WC			FISH

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : NAVAJO									
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
LEPIDOMEDA VITTATA	LITTLE COLORADO SPINEDACE	LT	Y	S		WC			FISH
ANODONTA CALIFORNIENSIS	CALIFORNIA FLOATER	SC		S					INVERTEBRATE
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
MICROTUS MEXICANUS NAVAHO	NAVAJO MEXICAN VOLE	SC		S		WC		4	MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
PEROGNATHUS FLAVUS GOODPASTERI	SPRINGERVILLE POCKET MOUSE	SC		S					MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
AMSONIA PEEBLESII	PEEBLES BLUE STAR				S			4	PLANT
ASCLEPIAS WELSHII	WELSH'S MILKWEED	LT	Y				HS	4	PLANT
ASTRAGALUS XIPHOIDES	GLADIATOR MILK VETCH	SC					SR		PLANT
CAREX SPECUICOLA	NAVAJO SEDGE	LT	Y				HS	3	PLANT
CHRYSOTHAMNUS MOLESTUS	TUSAYAN RABBITBRUSH	SC		S					PLANT
ERRAZURIZIA ROTUNDATA	ROUNDLEAF ERRAZURIZIA				S		SR	4	PLANT
PEDIOCACTUS PAPYRACANTHUS	PAPER-SPINED CACTUS	SC					SR		PLANT
PEDIOCACTUS PEEBLESIANUS VAR PEEBLESIANUS	PEEBLES NAVAJO CACTUS	LE					HS		PLANT
PENSTEMON NUDIFLORUS	FLAGSTAFF BEARDTONGUE			S					PLANT
PLATANTHERA ZOTHECINA	ALCOVE BOG-ORCHID	SC						3	PLANT
SCLEROCACTUS PARVIFLORUS	GLEN CANYON CACTUS						SR		PLANT
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : PIMA									
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD					WC			AMPHIBIAN
PTERNOHYLA FODIENS	LOWLAND BURROWING TREEFROG					WC			AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
AIMOPHILA QUINQUESTRIATA	FIVE-STRIPED SPARROW			S					BIRD
AMMODRAMUS BAIRDII	BAIRD'S SPARROW	SC				WC			BIRD
ASTURINA NITIDA MAXIMA	NORTHERN GRAY HAWK	SC		S	S	WC			BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
CARACARA CHERIWAY	CRESTED CARACARA					WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
COLINUS VIRGINIANUS RIDGWAYI	MASKED BOBWHITE	LE				WC			BIRD
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK					WC			BIRD
DENDROCYGNA BICOLOR	FULVOUS WHISTLING-DUCK	SC			S				BIRD
EMPIDONAX FULVIFRONS PYGMAEUS	NORTHERN BUFF-BREASTED FLYCATCHER	SC				WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
GLAUCIDIUM BRASILIANUM CACTORUM	CACTUS FERRUGINOUS PYGMY-OWL	LE	Y			WC			BIRD

COUNTYNAME : PIMA

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
PACHYRAMPHUS AGLAIAE	ROSE-THROATED BECARD					WC			BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
TYRANNUS CRASSIROSTRIS	THICK-BILLED KINGBIRD					WC			BIRD
TYRANNUS MELANCHOLICUS	TROPICAL KINGBIRD					WC			BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CYPRINODON EREMUS	QUITOBAQUITO DESERT PUPFISH	LE	Y			WC			FISH
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
AGATHYMUS ARYXNA	ARIZONA GIANT SKIPPER			S					INVERTEBRATE
AGATHYMUS POLINGI	POLING'S GIANT SKIPPER			S					INVERTEBRATE
ARGIA SABINO	SABINO CANYON DAMSELFLY	SC		S					INVERTEBRATE
CALEPHELIS RAWSONI ARIZONENSIS	ARIZONA METALMARK			S					INVERTEBRATE
LIMENITIS ARCHIPPUS OBSOLETA	OBSOLETE VICEROY BUTTERFLY			S					INVERTEBRATE
NEOPHASIA TERLOOTII	CHIRICAHUA PINE WHITE			S					INVERTEBRATE
SONORELLA EREMITA	SAN XAVIER TALUSSNAIL	SC							INVERTEBRATE
TRYONIA QUITOBAQUITAE	QUITOBAQUITO TRYONIA	SC		S					INVERTEBRATE
ANTILOCAPRA AMERICANA SONORIENSIS	SONORAN PRONGHORN	LE		S		WC			MAMMAL
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
EUMOPS UNDERWOODI	UNDERWOOD'S MASTIFF BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PANTHERA ONCA	JAGUAR	LE	N	S		WC			MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
SIGMODON OCHROGNATHUS	YELLOW-NOSED COTTON RAT	SC							MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
ABUTILON THURBERI	THURBER INDIAN MALLOW						SR		PLANT
ACACIA SMALLII	SWEET ACACIA			S					PLANT
AGAVE PARVIFLORA SSP PARVIFLORA	SANTA CRUZ STRIPED AGAVE	SC		S	S		HS		PLANT
AGAVE SCHOTTII VAR TRELEASEI	TRELEASE AGAVE	SC		S			HS		PLANT
ALLIUM GOODDINGII	GOODDING ONION	SC		S			HS	3	PLANT
ALLIUM PLUMMERAE	PLUMMER ONION						SR		PLANT
AMOREUXIA GONZALEZII	SAIYA	SC		S			HS		PLANT
AMSONIA GRANDIFLORA	LARGE-FLOWERED BLUE STAR	SC		S					PLANT
AMSONIA KEARNEYANA	KEARNEY'S BLUE STAR	LE					HS		PLANT
ASCLEPIAS LEMMONII	LEMMON MILKWEED			S					PLANT
ASPLENIUM DALHOUSIAE	DALHOUSE SPLEENWORT				S				PLANT

COUNTYNAME : PIMA

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
BERBERIS HARRISONIANA	KOFA BARBERRY				S				PLANT
BOERHAVIA MEGAPTERA	TUCSON MOUNTAIN SPIDERLING			S					PLANT
CAPSICUM ANNUUM VAR GLABRIUSCULUM	CHILTEPIN			S					PLANT
CAREX CHIHUAHUENSIS	A SEDGE			S					PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
CORYPHANTHA SCHEERI VAR ROBUSTISPINA	PIMA PINEAPPLE CACTUS	LE					HS		PLANT
DALEA TENTACULOIDES	GENTRY INDIGO BUSH	SC		S	S		HS		PLANT
ECHINOCACTUS HORIZONTHALONIUS VAR NICHOLII	NICHOL TURK'S HEAD CACTUS	LE					HS		PLANT
ECHINOCEREUS FASCICULATUS	MAGENTA-FLOWER HEDGEHOG-CACTUS						SR		PLANT
ECHINOMASTUS ERECTOCENTRUS VAR ACUNENSIS	ACUNA CACTUS	C					HS		PLANT
ECHINOMASTUS ERECTOCENTRUS VAR ERECTOCENTRUS	NEEDLE-SPINED PINEAPPLE CACTUS	SC		S			SR		PLANT
ERIGERON ARISOLIUS				S					PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
EUPHORBIA GRACILLIMA	MEXICAN BROOMSPURGE			S					PLANT
FEROCACTUS CYLINDRACEUS VAR EASTWOODIAE	GOLDEN BARREL CACTUS						SR		PLANT
GRAPTOPETALUM BARTRAMII	BARTRAM STONECROP	SC		S	S		SR		PLANT
HACKELIA URSINA	CHIHUAHUAN STICKSEED			S					PLANT
HEDEOMA DENTATUM	MOCK-PENNYROYAL			S					PLANT
HERMANNIA PAUCIFLORA	SPARSELEAF HERMANNIA			S					PLANT
HETEROTHECA RUTTERI	HUACHUCA GOLDEN ASTER	SC		S	S				PLANT
HEXALECTRIS REVOLUTA	CHISOS CORAL-ROOT			S	S				PLANT
HEXALECTRIS SPICATA	CRESTED CORAL ROOT						SR		PLANT
LILAEOPSIS SCHAFFNERIANA VAR RECURVA	HUACHUCA WATER UMBEL	LE	Y				HS		PLANT
LILIUM PARRYI	LEMMON LILY	SC		S			SR		PLANT
LISTERA CONVALLARIOIDES	BROADLEAF TWAYBLADE						SR		PLANT
LOPHOCEREUS SCHOTTII	SENITA						SR		PLANT
LUPINUS HUACHUCANUS	HUACHUCA MOUNTAIN LUPINE			S					PLANT
LYSILOMA MICROPHYLLA VAR THORNBERI	FEATHER BUSH						SR		PLANT
MALAXIS TENUIS	SLENDER ADDERS MOUTH						SR		PLANT
MAMMILLARIA MAINIAE	COUNTER CLOCKWISE FISHHOOK CACTUS			S			SR		PLANT
MAMMILLARIA THORNBERI	THORNBER FISHHOOK CACTUS						SR		PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
MANIHOT DAVISIAE	ARIZONA MANIHOT			S					PLANT
MATELEA CORDIFOLIA	SONORAN MILKWEED VINE			S					PLANT
METASTELMA MEXICANUM	WIGGINS MILKWEED VINE	SC		S					PLANT
MUHLENBERGIA DUBIOIDES	BOX CANYON MUHLY			S					PLANT
MUHLENBERGIA XEROPHILA	WEEPING MUHLY			S					PLANT
NEOEVANSIA STRIATA	DAHLIA ROOTED CEREUS						SR		PLANT
NOTHOLAENA LEMMONII	LEMMON CLOAK FERN	SC							PLANT
OPUNTIA KELVINENSIS	KELVIN CHOLLA						SR		PLANT
OPUNTIA PHAEACANTHA VAR FLAVISPINA							SR		PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : PIMA									
OPUNTIA VERSICOLOR	STAG-HORN CHOLLA						SR		PLANT
PASSIFLORA FOETIDA	FOETID PASSIONFLOWER			S					PLANT
PECTIS IMBERBIS	BEARDLESS CHINCH WEED	SC		S					PLANT
PENIOCEREUS GREGGII VAR TRANSMONTANUS	DESERT NIGHT-BLOOMING CEREUS						SR		PLANT
PENSTEMON DISCOLOR	CATALINA BEARDTONGUE			S			HS		PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PERITYLE AJOENSIS	AJO ROCK DAISY						SR		PLANT
PHYSALIS LATIPHYSA	BROAD-LEAF GROUND-CHERRY			S					PLANT
PLATANTHERA LIMOSA	THURBER'S BOG ORCHID						SR		PLANT
SAMOLUS VAGANS	CHIRICAHUA MOUNTAIN BROOKWEED			S					PLANT
SCHIEDEELLA PARASITICA	FALLEN LADIES'-TRESSES						SR		PLANT
SENECIO CARLOMASONII	SEEMANN GROUNDSEL			S					PLANT
SISYRINCHIUM CERNUUM	NODDING BLUE-EYED GRASS			S					PLANT
SOLANUM LUMHOLTZIANUM	LUMHOLTZ NIGHTSHADE			S					PLANT
STENOCEREUS THURBERI	ORGAN PIPE CACTUS						SR		PLANT
STEVIA LEMMONII	LEMMON'S STEVIA			S					PLANT
TEPHROSIA THURBERI	THURBER HOARY PEA			S					PLANT
THELYPTERIS PUBERULA VAR SONORENSIS	ARAVAIPA WOOD FERN				S				PLANT
TRAGIA LACINIATA	SONORAN NOSEBURN			S					PLANT
TRITELEIOPSIS PALMERI	BLUE SAND LILY				S		SR		PLANT
TUMAMOCA MACDOUGALII	TUMAMOC GLOBEBERRY			S	S		SR		PLANT
VAUQUELINIA CALIFORNICA SSP SONORENSIS	A ARIZONA ROSEWOOD				S				PLANT
VIOLA UMBRATICOLA	SHADE VIOLET			S					PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
CHARINA TRIVIRGATA TRIVIRGATA	MEXICAN ROSY BOA	SC			S				REPTILE
CHIONACTIS PALAROSTRIS ORGANICA	ORGAN PIPE SHOVELNOSE SNAKE			S					REPTILE
CNEMIDOPHORUS BURTI STICTOGRAMMUS	GIANT SPOTTED WHIPTAIL	SC		S	S				REPTILE
CNEMIDOPHORUS BURTI XANTHONOTUS	REDBACK WHIPTAIL	SC		S	S				REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
KINOSTERNON SONORIENSE LONGIFEMORALE	SONOYTA MUD TURTLE	C		S					REPTILE
MASTICOPHIS BILINEATUS LINEOLATUS	AJO MOUNTAIN WHIPSNAKE			S					REPTILE
PHRYNOSOMA CORNUTUM	TEXAS HORNED LIZARD	SC			S				REPTILE
PHYLLORHYNCHUS BROWNI LUCIDUS	MARICOPA LEAFNOSE SNAKE			S					REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
UMA NOTATA RUFOPUNCTATA	COWLES FRINGE-TOED LIZARD	SC		S	S	WC			REPTILE
COUNTYNAME : PINAL									
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD					WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ARDEA ALBA	GREAT EGRET					WC			BIRD
ASTURINA NITIDA MAXIMA	NORTHERN GRAY HAWK	SC		S	S	WC			BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD

COUNTYNAME : PINAL

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
GLAUCIDIUM BRASILIANUM CACTORUM	CACTUS FERRUGINOUS PYGMY-OWL	LE	Y			WC			BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
ICTINIA MISSISSIPPIENSIS	MISSISSIPPI KITE					WC			BIRD
IXOBRYCHUS EXILIS HESPERIS	WESTERN LEAST BITTERN	SC				WC			BIRD
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE				WC			BIRD
TYRANNUS CRASSIROSTRIS	THICK-BILLED KINGBIRD					WC			BIRD
TYRANNUS MELANCHOLICUS	TROPICAL KINGBIRD					WC			BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
MEDA FULGIDA	SPIKEDACE	LT	Y	S		WC			FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
TIAROGA COBITIS	LOACH MINNOW	LT	Y	S		WC			FISH
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
AGAVE MURPHEYI	HOHOKAM AGAVE	SC		S	S		HS		PLANT
AGAVE TOUMEYANA VAR BELLA	TOUMEY AGAVE						SR		PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
ECHINOCACTUS HORIZONTHALONIUS VAR NICHOLII	NICHOL TURK'S HEAD CACTUS	LE					HS		PLANT
ECHINOCEREUS TRIGLOCHIDIATUS VAR ARIZONICUS	ARIZONA HEDGEHOG CACTUS	LE		S			HS		PLANT
ECHINOMASTUS ERECTOCENTRUS VAR ACUNENSIS	ACUNA CACTUS	C					HS		PLANT
ECHINOMASTUS ERECTOCENTRUS VAR ERECTOCENTRUS	NEEDLE-SPINED PINEAPPLE CACTUS	SC		S			SR		PLANT
ERIGERON ANCHANA	MOGOLLON FLEABANE	SC		S					PLANT
ERIOGONUM CAPILLARE	SAN CARLOS WILD-BUCKWHEAT	SC					SR		PLANT
EUPHORBIA GRACILLIMA	MEXICAN BROOMSPURGE			S					PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : PINAL									
FEROCACTUS CYLINDRACEUS VAR EASTWOODIAE	GOLDEN BARREL CACTUS						SR		PLANT
FREMONTODENDRON CALIFORNICUM	FLANNEL BUSH				S		SR		PLANT
HEDEOMA DENTATUM	MOCK-PENNYROYAL			S					PLANT
LILAEOPSIS SCHAFFNERIANA VAR RECURVA	HUACHUCA WATER UMBEL	LE	Y				HS		PLANT
MABRYA ACERIFOLIA	MAPLELEAF FALSE SNAPDRAGON			S					PLANT
MAMMILLARIA THORNBERI	THORNBER FISHHOOK CACTUS						SR		PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
PENSTEMON DISCOLOR	CATALINA BEARDTONGUE			S			HS		PLANT
PERITYLE GILENSIS VAR GILENSIS	GILA ROCK DAISY			S					PLANT
STENOCEREUS THURBERI	ORGAN PIPE CACTUS						SR		PLANT
THELYPTERIS PUBERULA VAR SONORENSIS	ARAVAIPA WOOD FERN				S				PLANT
TUMAMOCA MACDOUGALII	TUMAMOC GLOBEBERRY			S	S		SR		PLANT
CNEMIDOPHORUS BURTI STICTOGRAMMUS	GIANT SPOTTED WHIPTAIL	SC		S	S				REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
PHYLLORHYNCHUS BROWNI LUCIDUS	MARICOPA LEAFNOSE SNAKE			S					REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : SANTA CRUZ									
AMBYSTOMA TIGRINUM STEBBINSI	SONORAN TIGER SALAMANDER	LE				WC			AMPHIBIAN
ELEUTHERODACTYLUS AUGUSTI CACTORUM	WESTERN BARKING FROG			S		WC			AMPHIBIAN
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD					WC			AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
AIMOPHILA QUINQUESTRIATA	FIVE-STRIPED SPARROW			S					BIRD
AMAZILIA VIOLICEPS	VIOLET-CROWNED HUMMINGBIRD			S		WC			BIRD
AMMODRAMUS BAIRDII	BAIRD'S SPARROW	SC				WC			BIRD
ANTHUS SPRAGUEII	SPRAGUE'S PIPIT					WC			BIRD
ASTURINA NITIDA MAXIMA	NORTHERN GRAY HAWK	SC		S	S	WC			BIRD
ATHENE CUNICULARIA HYPUGAEA	WESTERN BURROWING OWL	SC			S				BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
DENDROCYGNA AUTUMNALIS	BLACK-BELLIED WHISTLING-DUCK					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
GLAUCIDIUM BRASILIANUM CACTORUM	CACTUS FERRUGINOUS PYGMY-OWL	LE	Y			WC			BIRD
PACHYRAMPHUS AGLAIAE	ROSE-THROATED BECARD					WC			BIRD
PANDION HALIAETUS	OSPREY					WC			BIRD
POLIOPTILA NIGRICEPS	BLACK-CAPPED GNATCATCHER					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
TROGON ELEGANS	ELEGANT TROGON					WC			BIRD
TYRANNUS CRASSIROSTRIS	THICK-BILLED KINGBIRD					WC			BIRD

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : SANTA CRUZ									
TYRANNUS MELANCHOLICUS	TROPICAL KINGBIRD					WC			BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
GILA DITAENIA	SONORA CHUB	LT	Y			WC			FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
AGATHYMUS ARYXNA	ARIZONA GIANT SKIPPER			S					INVERTEBRATE
CALEPHELIS RAWSONI ARIZONENSIS	ARIZONA METALMARK			S					INVERTEBRATE
HETERELMIS STEPHANI	STEPHAN'S HETERELMIS RIFFLE BEETLE	SC		S					INVERTEBRATE
LIMENITIS ARCHIPPUS OBSOLETA	OBSOLETE VICEROY BUTTERFLY			S					INVERTEBRATE
NEOPHASIA TERLOOTII	CHIRICAHUA PINE WHITE			S					INVERTEBRATE
PYRGULOPSIS THOMPSONI	HUACHUCA SPRINGSNAIL	C		S	S				INVERTEBRATE
SYMPETRUM SIGNIFERUM	MEXICAN MEADOWFLY			S					INVERTEBRATE
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC			S	WC			MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE		S		WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
SIGMODON OCHROGNATHUS	YELLOW-NOSED COTTON RAT	SC							MAMMAL
SOREX ARIZONAE	ARIZONA SHREW	SC		S		WC			MAMMAL
THOMOMYS UMBRINUS INTERMEDIUS	SOUTHERN POCKET GOPHER			S					MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
ACACIA SMALLII	SWEET ACACIA			S					PLANT
AGAVE PARVIFLORA SSP PARVIFLORA	SANTA CRUZ STRIPED AGAVE	SC		S	S		HS		PLANT
ALLIUM RHIZOMATUM	REDFLOWER ONION			S			SR		PLANT
AMOREUXIA GONZALEZII	SAIYA	SC		S			HS		PLANT
AMSONIA GRANDIFLORA	LARGE-FLOWERED BLUE STAR	SC		S					PLANT
ASCLEPIAS LEMMONII	LEMMON MILKWEED			S					PLANT
ASCLEPIAS UNCIALIS	GREENE MILKWEED	SC		S					PLANT
ASTRAGALUS HYPOXYLUS	HUACHUCA MILK-VETCH	SC		S	S		SR		PLANT
BROWALLIA ELUDENS	ELUSIVE NEW BROWALLIA SPECIES	SC		S					PLANT
CAPSICUM ANNUUM VAR GLABRIUSCULUM	CHILTEPIN			S					PLANT
CAREX CHIHUAHUENSIS	A SEDGE			S					PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
CHOISYA MOLLIS	SANTA CRUZ STAR LEAF	SC		S					PLANT
CONIOSELINUM MEXICANUM	MEXICAN HEMLOCK PARSLEY	SC		S					PLANT
CORYPHANTHA RECURVATA	SANTA CRUZ BEEHIVE CACTUS			S	S		HS		PLANT
CORYPHANTHA SCHEERI VAR ROBUSTISPINA	PIMA PINEAPPLE CACTUS	LE					HS		PLANT
COURSETIA GLABELLA		SC		S					PLANT
DALEA TENTACULOIDES	GENTRY INDIGO BUSH	SC		S	S		HS		PLANT
ERIGERON ARISOLIUS				S					PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : SANTA CRUZ									
EUPHORBIA MACROPUS	WOODLAND SPURGE	SC					SR		PLANT
GRAPTOPETALUM BARTRAMII	BARTRAM STONECROP	SC		S	S		SR		PLANT
HEDEOMA DENTATUM	MOCK-PENNYROYAL			S					PLANT
HETEROTHECA RUTTERI	HUACHUCA GOLDEN ASTER	SC		S	S				PLANT
HEXALECTRIS REVOLUTA	CHISOS CORAL-ROOT			S	S				PLANT
HEXALECTRIS SPICATA	CRESTED CORAL ROOT						SR		PLANT
HIERACIUM PRINGLEI	PRINGLE HAWKWEED	SC		S					PLANT
IPOMOEA PLUMMERAE VAR CUNEIFOLIA	HUACHUCA MORNING GLORY			S					PLANT
IPOMOEA THURBERI	THURBER'S MORNING-GLORY			S					PLANT
LAENNECIA ERIOPHYLLA	WOOLLY FLEABANE			S					PLANT
LILAEOPSIS SCHAFFNERIANA VAR RECURVA	HUACHUCA WATER UMBEL	LE	Y				HS		PLANT
LILIUM PARRYI	LEMMON LILY	SC		S			SR		PLANT
LOBELIA FENESTRALIS	LEAFY LOBELIA						SR		PLANT
LOBELIA LAXIFLORA	MEXICAN LOBELIA						SR		PLANT
LOTUS ALAMOSANUS	ALAMOS DEER VETCH			S					PLANT
LUPINUS HUACHUCANUS	HUACHUCA MOUNTAIN LUPINE			S					PLANT
MACROPTILIUM SUPINUM	SUPINE BEAN	SC		S			SR		PLANT
MALAXIS CORYMBOSA	MADREAN ADDERS MOUTH						SR		PLANT
MALAXIS PORPHYREA	PURPLE ADDER'S MOUTH						SR		PLANT
MAMMILLARIA WRIGHTII VAR WILCOXII	WILCOX FISHHOOK CACTUS						SR		PLANT
MANIHOT DAVISIAE	ARIZONA MANIHOT			S					PLANT
MARINA DIFFUSA	ESCOBA			S					PLANT
METASTELMA MEXICANUM	WIGGINS MILKWEED VINE	SC		S					PLANT
MUHLENBERGIA XEROPHILA	WEEPING MUHLY			S					PLANT
NOTHOLAENA LEMMONII	LEMMON CLOAK FERN	SC							PLANT
PASPALUM VIRLETII	VIRLET PASPALUM			S					PLANT
PASSIFLORA FOETIDA	FOETID PASSIONFLOWER			S					PLANT
PECTIS IMBERBIS	BEARDLESS CHINCH WEED	SC		S					PLANT
PENSTEMON DISCOLOR	CATALINA BEARDTONGUE			S			HS		PLANT
PENSTEMON SUPERBUS	SUPERB BEARDTONGUE			S					PLANT
PHYSALIS LATIPHYSA	BROAD-LEAF GROUND-CHERRY			S					PLANT
PSILOTUM NUDUM	WHISK FERN						HS		PLANT
SAMOLUS VAGANS	CHIRICAHUA MOUNTAIN BROOKWEED			S					PLANT
SCHIEDEELLA PARASITICA	FALLEN LADIES'-TRESSES						SR		PLANT
SENECIO CARLOMASONII	SEEMANN GROUNDSEL			S					PLANT
SENECIO HUACHUCANUS	HUACHUCA GROUNDSEL			S			HS		PLANT
SISYRINCHIUM CERNUUM	NODDING BLUE-EYED GRASS			S					PLANT
SOLANUM LUMHOLTZIANUM	LUMHOLTZ NIGHTSHADE			S					PLANT
SPIRANTHES DELITESCENS	MADREAN LADIES'-TRESSES	LE					HS		PLANT
STEVIA LEMMONII	LEMMON'S STEVIA			S					PLANT
TALINUM HUMILE	PINOS ALTOS FLAME FLOWER	SC		S			SR		PLANT
TALINUM MARGINATUM	TEPIC FLAME FLOWER	SC		S			SR		PLANT
TEPHROSIA THURBERI	THURBER HOARY PEA			S					PLANT
TRAGIA LACINIATA	SONORAN NOSEBURN			S					PLANT

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : SANTA CRUZ									
CNEMIDOPHORUS BURTI STICTOGRAMMUS	GIANT SPOTTED WHIPTAIL	SC		S	S				REPTILE
CROTALUS WILLARDI WILLARDI	ARIZONA RIDGENOSE RATTLESNAKE			S		WC			REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
OXYBELIS AENEUS	MEXICAN VINE SNAKE					WC			REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
COUNTYNAME : YAVAPAI									
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC		S					AMPHIBIAN
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT		S		WC			AMPHIBIAN
RANA PIPIENS	NORTHERN LEOPARD FROG			S		WC		2	AMPHIBIAN
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC		S		WC			AMPHIBIAN
ACCIPITER GENTILIS	NORTHERN GOSHAWK	SC		S		WC		4	BIRD
BUTEO REGALIS	FERRUGINOUS HAWK	SC				WC		3	BIRD
BUTEOGALLUS ANTHRACINUS	COMMON BLACK-HAWK			S		WC			BIRD
CERYLE ALCYON	BELTED KINGFISHER					WC		4	BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	SC		S		WC		4	BIRD
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		S		WC			BIRD
SETOPHAGA RUTICILLA	AMERICAN REDSTART					WC			BIRD
STRIX OCCIDENTALIS LUCIDA	MEXICAN SPOTTED OWL	LT	Y	S		WC		3	BIRD
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC			S				FISH
CATOSTOMUS CLARKI	DESERT SUCKER	SC			S				FISH
CATOSTOMUS INSIGNIS	SONORA SUCKER	SC			S				FISH
CYPRINODON MACULARIUS	DESERT PUPFISH	LE	Y			WC			FISH
GILA INTERMEDIA	GILA CHUB	C		S		WC			FISH
GILA ROBUSTA	ROUNDTAIL CHUB	SC		S		WC		2	FISH
MEDA FULGIDA	SPIKEDACE	LT	Y	S		WC			FISH
POECILIOPSIS OCCIDENTALIS OCCIDENTALIS	GILA TOPMINNOW	LE				WC			FISH
PTYCHOCHEILUS LUCIUS	COLORADO PIKEMINNOW	LEXN	Y			WC		2	FISH
RHINICHTHYS OSCULUS	SPECKLED DACE	SC			S				FISH
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
CICINDELA OREGONA MARICOPA	MARICOPA TIGER BEETLE	SC		S	S				INVERTEBRATE
CYLLOEPUS PARKERI	PARKER'S CYLLOEPUS RIFFLE BEETLE	SC		S					INVERTEBRATE
METRICHIA VOLADA	PAGE SPRING MICRO CADDISFLY	SC							INVERTEBRATE
PYRGULOPSIS GLANDULOSA	VERDE RIM SPRINGSNAIL	SC		S	S				INVERTEBRATE
PYRGULOPSIS MONTEZUMENSIS	MONTEZUMA WELL SPRINGSNAIL	SC		S	S				INVERTEBRATE
PYRGULOPSIS MORRISONI	PAGE SPRINGSNAIL	C		S	S				INVERTEBRATE
PYRGULOPSIS SOLA	BROWN SPRINGSNAIL	SC		S	S				INVERTEBRATE
EUDERMA MACULATUM	SPOTTED BAT	SC			S	WC			MAMMAL
IDIONYCTERIS PHYLLOTIS	ALLEN'S BIG-EARED BAT	SC			S				MAMMAL
LASIURUS BLOSSEVILLII	WESTERN RED BAT					WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
COUNTYNAME : YAVAPAI									
MICROTUS MEXICANUS HUALPAIENSIS	HUALAPAI MEXICAN VOLE	LE				WC			MAMMAL
MYOTIS LUCIFUGUS OCCULTUS	OCCULT LITTLE BROWN BAT	SC			S				MAMMAL
MYOTIS THYSANODES	FRINGED MYOTIS	SC			S				MAMMAL
MYOTIS VELIFER	CAVE MYOTIS	SC			S				MAMMAL
NYCTINOMOPS MACROTIS	BIG FREE-TAILED BAT	SC			S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
ABUTILON PARISHII	PIMA INDIAN MALLOW	SC		S			SR		PLANT
AGAVE ARIZONICA	ARIZONA AGAVE	LE		S			HS		PLANT
AGAVE DELAMATERI	TONTO BASIN AGAVE	SC		S			HS		PLANT
AGAVE MCKELVEYANA	MCKELVEY'S AGAVE						SR		PLANT
AGAVE MURPHEYI	HOHOKAM AGAVE	SC		S	S		HS		PLANT
AGAVE TOUMEYANA VAR BELLA	TOUMEY AGAVE						SR		PLANT
ALLIUM BIGELOVII	BIGELOW ONION						SR		PLANT
ASTRAGALUS NEWBERRYI VAR AQUARII					S				PLANT
CAREX ULTRA	ARIZONA GIANT SEDGE			S	S				PLANT
ERIGERON SAXATILIS	ROCK FLEABANE			S					PLANT
ERIOGONUM APACHENSE	APACHE WILD-BUCKWHEAT	SC					SR		PLANT
ERIOGONUM ERICIFOLIUM VAR ERICIFOLIUM	HEATHLEAF WILD-BUCKWHEAT			S					PLANT
ERIOGONUM RIPLEYI	RIPLEY WILD-BUCKWHEAT	SC		S			SR		PLANT
FREMONTODENDRON CALIFORNICUM	FLANNEL BUSH				S		SR		PLANT
HEDEOMA DIFFUSUM	FLAGSTAFF PENNYROYAL			S			SR		PLANT
HEUCHERA EASTWOODIAE	EASTWOOD ALUM ROOT			S					PLANT
LUPINUS LATIFOLIUS SSP LEUCANTHUS	BROADLEAF LUPINE			S					PLANT
MAMMILLARIA VIRIDIFLORA	VARIED FISHHOOK CACTUS						SR		PLANT
PENSTEMON NUDIFLORUS	FLAGSTAFF BEARDTONGUE			S					PLANT
PHLOX AMABILIS	ARIZONA PHLOX			S					PLANT
POLYGALA RUSBYI	HUALAPAI MILKWORT			S					PLANT
PUCCINELLIA PARISHII	PARISH ALKALI GRASS	SC					HS	4	PLANT
PURSHIA SUBINTEGRA	ARIZONA CLIFF ROSE	LE					HS		PLANT
SALVIA DORRII SSP MEARNSII	VERDE VALLEY SAGE	SC		S			SR		PLANT
TALINUM VALIDULUM	TUSAYAN FLAME FLOWER	SC					SR		PLANT
THELYPTERIS PUBERULA VAR SONORENSIS	ARAVAIPA WOOD FERN				S				PLANT
WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM						SR		PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC		S		WC			REPTILE
THAMNOPHIS RUFIPUNCTATUS	NARROW-HEADED GARTER SNAKE	SC		S		WC			REPTILE
UMA SCOPARIA	MOJAVE FRINGE-TOED LIZARD					WC			REPTILE
XANTUSIA VIGILIS ARIZONAE	ARIZONA NIGHT LIZARD			S					REPTILE
COUNTYNAME : YUMA									
ARDEA ALBA	GREAT EGRET					WC			BIRD
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C		S		WC		3	BIRD

COUNTYNAME : YUMA

Scientific Name	Common Name	ESA	*Critical Habitat	USFS	BLM	WSCA	NPL	NESL	Taxonomic Group
EGRETTA THULA	SNOWY EGRET					WC			BIRD
EMPIDONAX TRAILLII EXTIMUS	SOUTHWESTERN WILLOW FLYCATCHER	LE	Y	S		WC		2	BIRD
GLAUCIDIUM BRASILIANUM CACTORUM	CACTUS FERRUGINOUS PYGMY-OWL	LE	Y			WC			BIRD
LATERALLUS JAMAICENSIS COTURNICULUS	CALIFORNIA BLACK RAIL	SC		S		WC			BIRD
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE				WC			BIRD
XYRAUCHEN TEXANUS	RAZORBACK SUCKER	LE	Y	S		WC		2	FISH
ANTILOCAPRA AMERICANA SONORIENSIS	SONORAN PRONGHORN	LE		S		WC			MAMMAL
EUDERMA MACULATUM	SPOTTED BAT	SC			S	WC			MAMMAL
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC							MAMMAL
LASIURUS XANTHINUS	WESTERN YELLOW BAT					WC			MAMMAL
MACROTUS CALIFORNICUS	CALIFORNIA LEAF-NOSED BAT	SC			S	WC			MAMMAL
MYOTIS YUMANENSIS	YUMA MYOTIS	SC							MAMMAL
NYCTINOMOPS FEMOROSACCUS	POCKETED FREE-TAILED BAT				S				MAMMAL
PLECOTUS TOWNSENDII PALLESCENS	PALE TOWNSEND'S BIG-EARED BAT	SC						4	MAMMAL
SIGMODON HISPIDUS EREMICUS	YUMA HISPID COTTON RAT	SC							MAMMAL
ALLIUM PARISHII	PARISH ONION						SR		PLANT
ASTRAGALUS MAGDALENAE VAR PEIRSONII	PEIRSON'S MILKVETCH	LT	N						PLANT
BERBERIS HARRISONIANA	KOFA BARBERRY				S				PLANT
CRYPTANTHA GANDERI	GANDER'S CRYPTANTHA	SC							PLANT
EUPHORBIA PLATYSPERMA	DUNE SPURGE	SC							PLANT
HELIANTHUS NIVEUS SSP TEPHRODES	DUNE SUNFLOWER	SC							PLANT
LOPHOCEREUS SCHOTTII	SENITA						SR		PLANT
OPUNTIA ECHINOCARPA	STRAW-TOP CHOLLA						SR		PLANT
PHOLISMA SONORAE	SAND FOOD	SC			S		HS		PLANT
RHUS KEARNEYI	KEARNEY SUMAC						SR		PLANT
STEPHANOMERIA SCHOTTII	SCHOTT WIRE LETTUCE				S				PLANT
TRITELEIOPSIS PALMERI	BLUE SAND LILY				S		SR		PLANT
WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM						SR		PLANT
CHARINA TRIVIRGATA GRACIA	DESERT ROSY BOA	SC		S	S				REPTILE
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC				WC			REPTILE
PHRYNOSOMA MCALLII	FLAT-TAIL HORNED LIZARD	SC				WC			REPTILE
UMA NOTATA RUFOPUNCTATA	COWLES FRINGE-TOED LIZARD	SC		S	S	WC			REPTILE

*If "Y" or "P" is indicated, Critical Habitat has been designated or proposed for the species. Critical Habitat is not necessarily designated or proposed within Arizona or within each county where the species occurs therein. Please contact the local USFWS office for details about Critical Habitats and their locations.

STATUS DEFINITIONS

ARIZONA GAME AND FISH DEPARTMENT (AGFD)
HERITAGE DATA MANAGEMENT SYSTEM (HDMS)

FEDERAL US STATUS

ESA **Endangered Species Act** (1973 as amended)
US Department of Interior, Fish and Wildlife Service (http://arizonaes.fws.gov)

Listed

- **LE** Listed Endangered: imminent jeopardy of extinction.
- **LT** Listed Threatened: imminent jeopardy of becoming Endangered.
- **XN** Experimental Nonessential population.

Proposed for Listing

- **PE** Proposed Endangered.
- **PT** Proposed Threatened.

Candidate (Notice of Review: 1999)

- **C** Candidate. Species for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as Endangered or Threatened under ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.
- **SC** Species of Concern. The terms "Species of Concern" or "Species at Risk" should be considered as terms-of-art that describe the entire realm of taxa whose conservation status may be of concern to the US Fish and Wildlife Service, but neither term has official status (currently all former C2 species).

Critical Habitat (check with state or regional USFWS office for location details)

- **Y** Yes: Critical Habitat has been designated.
- **P** Proposed: Critical Habitat has been proposed.

[\N No Status: certain populations of this taxon do not have designated status (check with state or regional USFWS office for details about which populations have designated status)**]**.

USFS **US Forest Service** (1999 Animals, 1999 Plants: corrected 2000)
US Department of Agriculture, Forest Service, Region 3 (http://www.fs.fed.us/r3/)

- **S** Sensitive: those taxa occurring on National Forests in Arizona which are considered sensitive by the Regional Forester.

BLM **US Bureau of Land Management** (2000 Animals, 2000 Plants)
US Department of Interior, Bureau of Land Management, Arizona State Office (http://azwww.az.blm.gov)

- **S** Sensitive: those taxa occurring on BLM Field Office Lands in Arizona which are considered sensitive by the Arizona State Office.
- **P** Population: only those populations of Banded Gila monster (*Heloderma suspectum cinctum*) that occur north and west of the Colorado River, are considered sensitive by the Arizona State Office.

TRIBAL STATUS

NESL **Navajo Endangered Species List** (2000)
Navajo Nation, Navajo Fish and Wildlife Department
(http://www.heritage.tnc.org/nhp/us/navajo/esl.html)

The Navajo Endangered Species List contains taxa with status from the entire Navajo Nation which includes parts of Arizona, Utah, and New Mexico. In this notebook we provide NESL status for only those taxa whose distribution includes part or all of the Arizona portion of the Navajo Nation.

Groups

1 Those species or subspecies that no longer occur on the Navajo Nation.

2 Any species or subspecies which is in danger of being eliminated from all or a significant portion of its range on the Navajo Nation.

3 Any species or subspecies which is likely to become an endangered species, within the foreseeable future, throughout all or a significant portion of its range on the Navajo Nation.

4 Any species or subspecies for which the Navajo Fish and Wildlife Department (NF&WD) does not currently have sufficient information to support their being listed in Group 2 or Group 3 but has reason to consider them. The NF&WD will actively seek information on these species to determine if they warrant inclusion in a different group or removal from the list.

MEXICAN STATUS

MEX **Mexican Federal Endangered Species List** (October 16, 2000)
Proyecto de Norma Oficial Mexicana PROY-NOM-059-ECOL-2000

The Mexican Federal Endangered Species List contains taxa with status from the entire Mexican Republic and waters under its jurisdiction. In this notebook we provide MEX designations for only those taxa occurring in Arizona and also in Mexico.

P En Peligro de Extinción(Determined Endangered in Mexico): in danger of extinction.

A Amenazada (Determined Threatened in Mexico): could become endangered if factors causing habitat deterioration or population decline continue.

Pr Sujeta a ProtecciónEspecial (Determined Subject to Special Protection in Mexico): utilization limited due to reduced populations, restricted distribution, or to favor recovery and conservation of the taxon or associated taxa.

E Probablemente extinta en el medio silvestre (Probably extinct in the wild of Mexico): A native species whose individuals in the wild have disappeared, based on pertinent documentation and studies that prove it. The only existing individuals of the species are in captivity or outside the Mexican territory.

[| = One or more subspecies of this species has status in Mexico, but the HDMS does not track it at the subspecies level (most of these subspecies are endemic to Mexico). Please consult the NORMA Oficial Mexicana PROY-NOM-059-ECOL-2000 for details.]

STATE STATUS

NPL **Arizona Native Plant Law** (1999)
Arizona Department of Agriculture (http://agriculture.state.az.us/PSD/nativeplants.htm)

- **HS** Highly Safeguarded: no collection allowed.
- **SR** Salvage Restricted: collection only with permit.
- **ER** Export Restricted: transport out of State prohibited.
- **SA** Salvage Assessed: permits required to remove live trees.
- **HR** Harvest Restricted: permits required to remove plant by-products.

WSCA **Wildlife of Special Concern in Arizona** (1996 in prep)
Arizona Game and Fish Department (http://www.azgfd.com)

- **WC** Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Arizona Game and Fish Department's listing of Wildlife of Special Concern in Arizona (WSCA, in prep). Species indicated on printouts as WC are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Malcolm Bowekaty, Governor
Zuni Pueblo Tribal Council
P.O. Box 339
Zuni, NM 87327

Dear Governor Bowekaty:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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The INS intends to prepare an Environmental Assessment (EA) addressing the installation, operation and maintenance of these 27 remote video surveillance systems.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Dallas Massey, Sr., Chairman
White Mountain Apache Tribal Council
P.O. Box 700
Whiteriver, AZ 85941

Dear Chairman Massey:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Edward Manuel, Chairman
Tohono O'odham Nation
P.O. Box 837
Sells, AZ 85634

Dear Chairman Manuel:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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INS Architect/Engineer Resource
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Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
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Tucson, Arizona 85713

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FORT WORTH DISTRICT, CORPS OF ENGINEERS
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FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Raymond Stanley, Jr., Chairman
San Carlos Tribal Council
P.O. Box 0
San Carlos, AZ 85550

Dear Chairman Stanley:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Benito F. Valencia, Chairman
Pascua Yaqui Tribe
7474 S. Camino de Oeste
Tucson, AZ 85746

Dear Chairman Valencia:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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INS Architect/Engineer Resource
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Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
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Tucson, Arizona 85713

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FORT WORTH DISTRICT, CORPS OF ENGINEERS
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FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Wayne Taylor, Jr., Chairman
Hopi Tribal Council
P.O. Box 123
Kykotsmovi, AZ 86039

Dear Chairman Taylor:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
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P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable Donald R. Antone, Governor
Gila River Indian Community Council
P.O. Box 97
Sacaton, AZ 85247

Dear Governor Antone:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Honorable. Delia Carlyle, Chairperson
Ak Chin Community Council
42507 W. Peters and Nall Road
Maricopa, AZ 85239

Dear Chairperson Carlyle:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. In our continuing efforts on behalf of the INS and USBP to consult with those Native American groups who may have an interest in the proposed project area; we wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

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Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

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FORT WORTH DISTRICT, CORPS OF ENGINEERS
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FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

March 28, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Installation and Operation and Maintenance of 27 Remote video Surveillance Systems (RVS) in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona

Mr. James Garrison, State Historic Preservation Officer
ATTN: Joanne Miller
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Dear Mr. Garrison:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to the proposed project mentioned above in Santa Cruz and Cochise Counties, Arizona. We wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 27 RVS systems. Enclosed are maps with locations of all of the proposed RVS sites. Three of the proposed RVS systems will require steel, three-legged towers 80-120 feet tall (SiteN-6, Figure 4; Site E-3, Figure 7; and Uniform, Figure 9) and the remainder will either be mounted on existing structures or be mounted on a 40-80 foot steel monopole. This proposed action includes the installation of overhead or underground power lines at some of the locations, the construction of two new access roads (Site N-1, Figure 1 and Site E-3, Figure 7), and the upgrade of two existing access roads (Site D-1, Figure 1 and Site N-4, Figure 3).

Archaeological surveys are being conducted this next week. You will be provided with the results of those surveys and further coordination on the proposed project at that time. We are consulting with the appropriate Native American groups regarding this project as well. Enclosed is a list of those tribes being contacted.

The INS intends to prepare an Environmental Assessment (EA) addressing the installation, operation and maintenance of these 27 remote video surveillance systems. This document will be tiered from the 1994 Programmatic Environmental Impact Statement that addressed INS and Joint Task Force-Six (JTF-6) activities along the U.S.-Mexico Border.

This document will be tiered from the 1994 Programmatic Environmental Impact Statement that addressed INS and Joint Task Force-Six (JTF-6) activities along the U.S.-Mexico Border. You will also receive a copy of that document for your review and comment.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 886-1723. Thank you for your assistance with this project.

Sincerely,

Paul M Hatton

for William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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INS Architect/Engineer Resource
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Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

"Managing and conserving natural, cultural, and recreational resources"

In reply refer to **SHPO-2002-628**
General Comments

May 1, 2002

William Fickel, Jr.
Chief, Planning, Environmental and Regulatory Division
U.S. Army Corps of Engineers
P. O. Box 17300
Fort Worth, TX 76102-0300

Attention: Patience Patterson

RE: Installation and Operation and Maintenance of 27 Remote Video Surveillance Systems in the Tucson Sector, Santa Cruz and Cochise Counties, Arizona
INS, USBP
SHPO-2002-628 (10444)

Dear Mr. Fickel:

Thank you for initiating consultation with our office on behalf of the Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) on the above referenced federal undertaking and for providing descriptive information about the proposed project. We understand that reports of supporting cultural resources surveys will be provided along with other project related documentation.

We look forward to continuing consultation on this federal undertaking. If you have any questions or concerns, please contact me at (602) 542-7142.

Sincerely,

Jo Anne Medley Miller
Compliance Specialist/Archaeologist
State Historic Preservation Office

Arizona State Parks®

Jane Dee Hull
Governor

State Parks Board Members

Chair
Suzanne Pfister
Phoenix

Vice-Chair
Joseph H. Holmwood
Mesa

John U. Hays
Yarnell

Elizabeth Stewart
Tempe

Vern Rodebush
Safford

Walter D. Armer, Jr.
Benson

Michael E. Anable
State Land Commissioner

Kenneth E. Travous
Executive Director

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

I & TTY: 602.542.4174
www.pr.state.az.us

800.285.3703 from
520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

Arizona Department of Agriculture (ADA)
Licensing and Registration Section
1688 West Adams, Phoenix, Arizona 85007
Phone: (602) 542-0949
Fax: (602) 542-0466

Notice of Intent to Clear Land

ARS § 3-904

Pursuant to A.R.S. § 3-904 the undersigned, as Owner of the Property described herein, gives this Notice of Intent to Clear Land of protected native plants.

1. **Owner/landowner's agent.** The owner or landowner's agent of the Property upon which protected native plants will be affected:

   Owner's Name Delta Properties Phone _____

   Address _____

   Agent's Name United States Border Patrol Phone _____

   Address Shawn Palmer, 1500 W. La Quinta Rd., Nogales, Az. 85621

2. **Property.** The description and location of the Property upon which protected native plants will be affected:

   Name of Property/Project Crawford Hill relay tower/RVS system site

   Address _____

   Physical Location (attach map) _____

   (Note: Map must also show surrounding land for 1/2 mile in each direction)

   Tax Parcel ID Nos. _____

   Legal Description (or attach copy) W 110° 57' 10" & N 31° 20' 15"

   Number of Acres to be Cleared .05 acres

3. **Owner's Intent.** Landowner's intentions when clearing private land of protected native plants.

   ☐ Owner intends to allow salvage of the plants, and agrees to be contacted by native plant salvagers.

   ☐ Owner intends to transplant the plants onto the same property, or to another property he also owns.

   ☐ Owner has already arranged for salvage of the plants.

   ☐ Owner does not intend to allow salvage of the plants.

   ☒ Other Owners discretion

4. **Approximate starting date.** _____
   (See notice period listed on reverse side)

Signature _____ **Date** 9-30-02

Notice to salvagers: Consent of the landowner is required before entering any lands described in this notice.

rev 04/02

CITIZEN PUBLISHING COMPANY

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Janice Anderson, being first duly sworn deposes and says: that she is the Legal Advertising Representative of the **CITIZEN PUBLISHING COMPANY**, a corporation organized and existing under the laws of the State of Arizona, and that the said **CITIZEN PUBLISHING COMPANY** prints and publishes the Tucson Citizen, a daily newspaper printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached

Legal Notice

was printed and published correctly in the entire issue of the said Tucson Citizen on each of the following dates, to-wit:

October 22, 2002

Janice Anderson

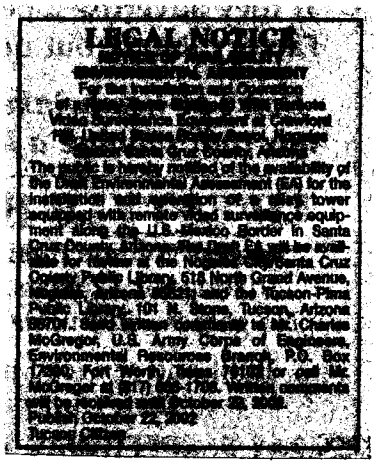
Subscribed and sworn to before me this 25th day of October, 2002

Carla D. Gamez
Notary Public

OFFICIAL SEAL
CARLA D. GAMEZ
NOTARY PUBLIC - ARIZONA
PIMA COUNTY
My Comm. Expires 06/30/04

My commission expires

TNI AD NO. 943196


LEGAL NOTICE

NOTICE OF AVAILABILITY

ENVIRONMENTAL ASSESSMENT
For the Installation and Operation of a Relay Tower Equipped With Remote Video Surveillance Equipment at Crawford Hill,
United States Border Patrol, Nogales Station
Santa Cruz County, Arizona

The public is hereby notified of the availability of the Draft Environmental Assessment (EA) for the installation and operation of a relay tower equipped with remote video surveillance equipment along the U.S.-Mexico Border in Santa Cruz County, Arizona. The Draft EA will be available for review at the Nogales City/Santa Cruz County Public Library, 518 North Grand Avenue, Nogales, Arizona 85621; and the Tucson-Pima Public Library, 101 N. Stone, Tucson, Arizona 85701. Send written comments to Mr. Charles McGregor, U.S. Army Corps of Engineers, Environmental Resources Branch, P.O. Box 17300, Fort Worth, Texas 76102 or call Mr. McGregor at (817) 886-1708. Written comments will be received until October 22, 2002.

Pub: 10/22/02
Req: Gulf So Research Corp

AFFIDAVIT OF PUBLICATION

STATE OF ARIZONA
COUNTY OF SANTA CRUZ } **ss.**

BOB KIMBALL being of first duly sworn, deposes and says: that he/she is PUBLISHER of the NOGALES INTERNATIONAL, a newspaper published in the County of Santa Cruz, State of Arizona, and of general circulation in said County, State and elsewhere, and that the hereto attached legal notice

NOTICE OF AVAILABILITY - ENVIRONMENTAL ASSESSMENT, Remote Video Surveillance Equipment at Crawford Hill

was printed and published correctly in the regular and entire issue of said NOGALES INTERNATIONAL for 1 issues; that the first publication was made on the 22 day of October, 20 02, and the last publication thereof was made on the 22 day of October, 2002.

NOGALES INTERNATIONAL

By Bob Kimball

Subscribed and sworn to before me this 22 day of October, 2002.

Sandra Morales
Notary Public

My commission expires:

OFFICIAL SEAL
SANDRA MORALES
Notary Public - State of Arizona
SANTA CRUZ COUNTY
My Comm. Expires Jan. 4, 2005